This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

WEALTH AND PROGRESS
OF
NEW SOUTH WALES.

THE

WEALTH AND PROGRESS

OF

NEW SOUTH WALES

1887-88.

BY

T. A. COGHLAN, A.M., INST. C.E.,
GOVERNMENT STATISTICIAN.

SECOND ISSUE.

NEW YORK
PUBLIC
LIBRARY

Syd[illegible]
CHARLES POTTER, [illegible], PHILLIP-STREET.
GEORGE ROB[illegible]GE-STREET.

WEALTH AND PROGRESS

OF

NEW SOUTH WALES.

CONTENTS.

	Page
Historical Sketch	1
Limits and Area	34
Physical Configuration	36
Climate	
Geological Formation	[illegible]
Mines and Minerals	60
Vegetation	
Fauna	
Commerce and Shipping	
Land and Agriculture	
Stock	
Food Supply	298
Population and Vital Statistics	306
Employment	386
Internal Communication	416
Law and Crime	457
Constitution	487
Finance and Public Wealth	507
Instruction, Science, and Religion	577
Defence	615
Local Government	622
Social Condition and Charities	643
Statistical View of the Progress of New South Wales	657
General Index	659
Map of New South Wales ... *facing page*	658

Presented by

The AGENT-GENERAL

for NEW SOUTH WALES,

9, Victoria Street,

LONDON, S.W.

PART I.

Historical Sketch of the Colony prior to Responsible Government.

Early Discoverers.

THE Columbus of Australia was undoubtedly Don Pedro Fernandez de Quiros, a Spanish nobleman and navigator, who sailed in 1606 from Lima, in Peru, for the express purpose of discovering a southern continent, in the existence of which he had repeatedly expressed his confident belief. Like Columbus, he failed to sight the main land, but having succeeded in reaching a coast that stretched for a great distance north and south, he mistook it for the continent in search of which he had come, and named the land Australia del Espiritu Santo. This was one of the islands of the New Hebrides group, still known as Espiritu Santo. Sickness and discontent led to a mutiny on De Quiros' vessel, the sailors insisting so vehemently on returning to Peru, that the Admiral was forced to abandon the further prosecution of his discoveries. In company with De Quiros was Luiz Vaez de Torres, in command of another ship, named the Almirante, who after parting company with De Quiros, discovered that Espiritu Santo was only an island. Torres, being afterwards forced to bear up for the Phillipines for the purpose of refitting, discovered and sailed through the strait which now bears his name, and even sighted Cape York, which he supposed to be only another of the many small islands abounding in the neighbourhood.

Dutch explorers.

About the same time the Dutch sent out an expedition from Bantam in a small vessel called the Duyfhen, which discovered the Gulf of Carpentaria. Some of the crew landed, and are believed to have been the first Europeans who trod the shore of Australia. Being attacked by the natives they were forced to abandon any attempt to explore the country; and after naming the place Cape Keerweer, or Turn-again, they departed, apparently in total ignorance of the fact that they had landed on the northern shore of a great continent. Other Dutch adventurers discovered, during the following twenty years, various parts of the coast. Dirk Hartog landed on the island now bearing his name, in 1616. Jan Carstens, in command of the yachts Pera and Arnheim, sailed along the northern shores, for a long time called Arnheim's land, in 1623. About the same time another Dutchman, Captain Edel, explored the greater part of the western coast. In 1622 a Dutch vessel, the Leeuwin, coasted along the south-west shore, from the cape which has been named after her, to King George's Sound; and in 1627 Peter Nuyts discovered the Great Australian Bight. Other Dutch explorers were Pelsart, who was shipwrecked on Houtman's Abrolhos in 1629, and Tasman, the discoverer of Tasmania and New Zealand.

Dampier's expedition.

Dampier, an English buccaneer and discoverer, also explored the west coast, from Shark Bay to Dampier's Archipelago, and the north-west coast, as far as Roebuck Bay, a distance of about nine hundred miles. This was in 1699, and he appears to have landed in several places. On his return he published an account of what he had seen. He described the country as sterile in the extreme, and almost devoid of animals, the only one of any importance somewhat resembling a racoon, a strange creature, which used only its hind legs, and, instead of walking, advanced by great bounds, or leaps, of twelve or fifteen feet at a time. This is the first notice of the kangaroo which has reached us. Dampier also describes the aboriginal inhabitants of the north-west coast in terms the reverse of favourable, which, however, apply equally to the natives of New South Wales as first seen by Captain Cook. The mention of this last distinguished man brings the narrative to the period when the real history of New South Wales, and therewith that of Australia, begins.

Voyage of Captain Cook.

The great voyage of James Cook, in 1769-70, was primar
undertaken for the purpose of observing the transit of Venus, b
his instructions also mention among its objects the makin

further geographical discoveries. The ship in which Cook sailed was a small vessel of 320 tons, carrying twenty-two guns. Originally built for service as a collier, she was selected for the use of the expedition on account of her unusually strong construction. This craft had been chosen by Cook himself, and was renamed the Endeavour, in allusion to the great work which her commander was setting out to achieve. Mr. Green was to conduct the astronomical observations, and Sir Joseph Banks and Dr. Solander were appointed botanists to the expedition. After successfully observing the Transit from the island of Tahiti, or Otaheite, as Cook wrote it, the Endeavour's head was turned south, and then northwest, beating about the Pacific in search of the eastern coast of the great continent, whose western shores had been so long known to the Dutch. After circumnavigating, and minutely surveying New Zealand, Cook stood due west, and in three weeks sighted the cliffs of New Holland, as Australia was then called.

The Endeavour.

The first important point observed was Cape Howe, which was so named by Cook. After passing and naming Mount Dromedary, the Pigeon House, Point Upright, and Cape St. George, on the 28th April, 1770, Botany Bay was discovered, which, as it apppeared to offer a suitable anchorage, the Endeavour entered, and dropped anchor. The ship brought-to opposite a group of natives, who were cooking over a fire. Cook and his crew, unacquainted with the character of the Australian aborigines, were not a little astonished that these natives took no notice of them or their proceedings. Even the splash of the anchor in the water and the noise of the cable running out through the hawse-hole in no way disturbed them at their occupation, or caused them to evince the slightest curiosity. But as the captain of the Endeavour ordered out the pinnace and prepared to land, the natives threw off their nonchalance; for on the boat approaching the shore two men, each armed with a bundle of spears, presented themselves on a projecting rock and made threatening signs to the strangers. It is interesting to note that the ingenious "wommera," or throwing stick, which is peculiar

Cook anchors in Botany Bay.

ncounter with
he Aborigines.

to Australia, was first observed on this occasion. As these men were evidently determined to oppose any attempt at landing, a musket was discharged between them, in the hope that they would be frightened by the noise, but it produced no effect beyond causing one of them to drop his bundle of spears, of which, however, he immediately re-possessed himself, and the two natives still preserved the same menacing attitude. One of them at last cast a stone towards the boat, which earned him a charge of small shot in the leg. Nothing daunted, the two men ran back into the bush, and presently returned furnished with shields made of bark, with which to protect themselves from the firearms of the crew. The intrepidity of these men is certainly worthy of passing notice. Unlike the American Indians, who supposed Columbus and his crew to be supernatural beings, and their ships in some way endowed with life, and who were thrown into convulsions of terror by the first discharge of firearms which they witnessed, these Australians were neither excited to wonder by the ship nor overawed by the superior number or unknown weapons of the strangers. Cook examined the bay in the pinnace, and landed several times; but by no endeavour could he induce the natives to hold any friendly communication with him. The well-known circumstance of the great variety of new plants here obtained, from which Botany Bay derives its name, should not be passed over. Before quitting the bay the ceremony was performed of hoisting the Union Jack, first on the south shore and then near the north head, thus taking formal possession of the territory for the British Crown.

iscovery of
ort Jackson

After leaving Botany Bay Cook sailed northward. He saw and named Port Jackson, but, for some unexplained reason, forebore to enter the finest natural harbour in Australia. Broken Bay was also seen, but the vessel did not come to an anchor till Moreton Bay was reached. Still sailing northward, and taking notes, as h proceeded, for a rough chart of the coast, Cook passed over 1,30 miles without any event happening worthy of being chronicled till suddenly one night at 11 o'clock the water was found to sho without any sign of breakers or land. While Cook was speculating on the cause of this phenomenon, and was in the act of ordering out the boats to take soundings, the Endeavour struck heavily, and fell over so much that the guns, spare cables, and other heavy gear were at once thrown overboard to lighten the ship. As day broke, attempts were made to float the vessel off with the morning tide; but these were unsuccessful. The water was rising so rapidly in the hold that with four pumps constantly going the crew could hardly keep it in check. At length one of the midshipmen suggested the device of "fothering," which he had seen practised in the West Indies. This consists in passing a sail, attached to cords, under the vessel's keel, in such a manner that the suction of the leak may draw the canvas into the aperture, and thus partially stop the vent. This was performed with great success, and the vessel was floated off with the evening tide. The land was soon after made, near the mouth of a small river, which Cook called after the ship, the "Endeavour River." A headland close by he named Cape Tribulation. The ship was steered into the river, and there careened and thoroughly repaired. Cook afterwards completed the survey of the east coast, and returned by way of Torres Straits and the Indian Ocean.

The Endeavour in danger.

The favourable reports brought to England by the Endeavour on her return, and the graphic account of his voyage published by Cook, together with the fact that Great Britain had just lost her North American Colonies, by their successful rebellion, turned all eyes to Australia, or New Holland, as it continued to be called. The difficulty of disposing of their criminal population was only one of the causes which determined the Government of the day to found the colony of New South Wales; for it will become evident, as the narrative proceeds, that all concerned felt they were engaged in founding a new home in the Southern Hemisphere for the British people, and that visions of even greater progress than has yet been attained filled the minds, not only of Viscount Sydney and Governor Phillip, but also of many reflecting persons in the

Return of the Endeavour.

Colony itself. The truth of this view is amply demonstrated by the testimony of several contemporary writers; but it is nowhere more strongly emphasized than in the lines entitled "The Visit of Hope to Sydney Cove," the author of which was Darwin, whose "Botanic Garden" is well known. The lines have been often quoted; but they contain so distinct a prophecy of the greatness to which the Colony has attained that they may be appropriately introduced:

arwin's pro-
hetic lines.

Where Sydney Cove her lucid bosom swells,
Courts her young navies and the storm repels;
High on a rock amid the troubled air
Hope stood sublime and waved her golden hair,
Calmed with her rosy smile the tossing deep,
And with sweet accents charmed the winds to sleep;
To each wild plain she stretched her snowy hand,
High waving wood and sea-encircled strand.
'Hear me,' she cried, 'ye rising realms! Record
'Time's opening scene and Truth's unerring word.
'*There* shall broad streets their stately walls extend,
'The circus widen and the crescent bend;
'*There*, ray'd from cities o'er the cultured land,
'Shall bright canals, and solid roads expand,
'*There* the proud arch, Colossus-like, bestride
'Yon glittering stream, and bound the chafing tide;
'Embellished villas crown the landscape scene,
'Farms wave with gold and orchards blush between.
'*There* shall tall spires, and dome-capped towers ascend,
'And piers and quays their massy structure blend;
'While with each breeze approaching vessels glide,
'And northern treasures dance on every tide.'
Then ceased the nymph—tumultuous echoes roar—
And joy's loud voice was heard from shore to shore—
Her graceful steps descending pressed the plain,
And Peace and Art and Labour joined her train.

Such words as these could not have been inspired by the prospect of the "big gaol growing still bigger," which some foreign writers assert was all the Colony was ever expected to become. On the contrary they mark the prescience of those who, one hundred years ago, saw clearly what a great enterprise was being initiated by the departure of the first fleet under Captain Arthur Phillip.

Viscount Sydney determines to found the Colony.

It was in the early part of 1787 that Viscount Sydney, Secretary of State for the Colonies, determined to plant a colony in New South Wales, and by May of that year the "First Fleet" had been assembled. It consisted of the 20-gun frigate Sirius; the armed tender Supply; three store ships—the Golden Grove, Fishburn, and Borrowdale; and six transports—the Alexander, Scarborough, Lady Penrhyn, Prince of Wales, Friendship, and Charlotte. The largest of these vessels measured only 450 tons, and the smallest was no more than 270 tons. On board of the six transports (the Sirius and Supply, and the store ships carrying only their ordinary crew) were packed no fewer than 564 men and 192 women, all prisoners who had been sentenced to expatriation. There were also carried 168 marines and 10 officers, commissioned and non-commissioned. These, with 5 medical men, a few mechanics, and 40 women, wives of marines, together with 13 children, the offspring of the convicts, made up the total number of persons despatched to found the Colony.

Captain Phillip, R.N., was placed in command of the expedition, and also bore a commission as Governor and Captain General of New South Wales. Second in command was Captain John Hunter, of the Sirius, and Mr. David Collins accompanied the expedition as Judge Advocate.

Sailing and arrival of the "First Fleet."

The fleet sailed at the end of May, 1787, and after calling at Rio Janeiro, arrived in Botany Bay in the beginning of January, 1788. A cursory examination convinced Captain Phillip that a more unsuitable site for a new settlement could hardly have been chosen than the shores of this bay. Despite the profusion of new plants which had so delighted Banks and Solander, the neighbourhood of Botany Bay is by no means fertile. The scarcity of good water was a further disadvantage, while the bay itself was so shallow as to forbid the ships approaching the shore, which would have necessitated the erection of piers and jetties of great length. It was besides exposed to the full swell of the Pacific, being destitute of bays, creeks, or coves of any kind. The Governor accordingly determined to explore the coast in search of a more suitable site for the settlement. After proceeding in three of the boats about nine miles, he found himself abreast of the entrance of Port Jackson, which Cook had supposed to be a mere shallow indentation of the land, fit for nothing but a landing-place for boats. Undeterred by this opinion, Phillip rounded the South Head and soon saw opening before him the whole expanse of one of the finest harbours in the world. For miles to the west stretched the peaceful waters of Port Jackson, which must have delighted the minds of the explorers, disheartened as they had been by the appearance and surroundings of Botany Bay. In place of the stunted scrub which formed the greater part of the vegetation of that locality, Port Jackson was found to be surrounded by a thick forest of noble trees, which extended to the water's edge, and promised an abundant supply of timber for building. In place of the open roadstead at Botany a countless succession of bays and inlets opened on the astonished gaze of the hardy navigators as they proceeded up the harbour. Deep water was found to extend to the very base of the rocks, thus obviating any necessity for expensive wharves, the construction of which must have occupied the little community for many months, to the neglect of more immediately pressing wants.

Discovery of Port Jackson.

Sydney Cove selected for settlement.

The Governor's choice of the site of the present metropolis of Australasia was determined by the fact that an apparently perennial stream of the purest water was found discharging itself into a beautiful sandy cove about six miles from the entrance, which was named Sydney Cove, in honour of the statesman under whose auspices the enterprise had been undertaken. Before finally deciding on this site, Captain Phillip spent three days in exploring the various bays, but was confirmed in his original choice by the fact that no such stream of water had been found elsewhere, though in other respects numerous positions equally eligible presented themselves.

La Pérouse's Expedition.

Returning immediately to Botany, preparations were made for bringing the colony round to Sydney Cove, when as the fleet were standing out of the bay an interesting incident occurred. Two strange vessels evidently making for the entrance were discerned in the offing. Captain Phillip went out in the Supply to meet the strangers, who proved to be a French exploring party under the command of Jean François Galaup, Comte de la Pérouse, their vessels being the frigates Astrolabe and Boussole. After an interchange of courtesies, the French were left to refresh and refit in Botany Bay. They stayed there till March, 1788, and buried one of their company on shore—Father le Receveur, of the Order of St. Francis, the naturalist of the expedition, who died of wounds received in an encounter with the natives of the South Seas. His tomb is still extant at La Pérouse, near the north head of Botany Bay, where also a monument was placed, in the year 1825, to the memory of the commander of the expedition, who was shipwrecked and whose crew were murdered on the Santa Cruz Islands. The monument was erected by Messrs. De Bougainville and Ducampier, commanding the French war vessels, Thétis and Espérance, then lying in Port Jackson.

Foundation of the Colony.

On Captain Phillip's arrival in Sydney Harbour, on the memorable 26th January, 1788, the ships anchored in the Cove, and preparations were at once made for landing the colonists. The clearing of the ground in the vicinity, and along the banks of the little stream, was commenced, and when a sufficient space had thus been obtained a flagstaff was erected, and the Union Jack run up. After the firing of three volleys by the marines, the Governor read his commission, and addressed words of counsel, warning, and encouragement to the prisoners, the ceremony closing with general festivity. Arduous labour succeeded this scene, for it was well understood that unless the settlers could raise supplies for themselves, the existence of the Colony would be precarious, as the store of provisions in their possession was calculated to last only a very short time.

ming first
mpted.

Accordingly ground was cleared at the head of Farm Cove, adjoining the settlement, and an attempt made to raise wheat, but time has shown that the soil in the immediate neighbourhood of Sydney is not suited to the cultivation of this cereal, and even if a good crop had been obtained the colonists must have starved while it was maturing. No food worth mentioning was procured from the land, and the little community was on the brink of starvation, when a ship arrived with another batch of colonists, but without stores. This brought matters to a climax, whereupon Governor Phillip sent the Sirius to the Cape Colony, and the Supply to Batavia, to procure provisions, which, however, could only be obtained in insufficient quantity, so that in a few weeks after the return of these vessels the state of affairs became as bad as before, and starvation again stared the Colony in the face. Under these circumstances, everyone, including the Governor himself, was placed on short allowance, and even the sheep and cattle which had been reserved for breeding purposes were killed for food. In this aspect of affairs the Governor bethought himself of Norfolk Island, whither, shortly after his arrival, he had sent Lieutenant Philip Gidley King, of the Sirius, to establish a branch colony. A detachment of 200 convicts, with a guard of 70 marines, was, therefore, despatched to the island. On arrival they found that King and his men had cleared a considerable portion of land, and had succeeded in raising an abundant crop. But the Sirius, in which the new detachment sailed, was wrecked on a reef off the island, so that no supplies were procured thence at that time.

e "Second
et.'

When the prospects of the settlement at Sydney Cove had reached their gloomiest, the "Second Fleet," consisting of three store-ships, arrived, and snatched the Colony from the very brink of destruction by famine. This tided over the difficulty, and so great a privation of food was never again experienced. Fresh difficulties, however, beset the settlers by the arrival of some shiploads of immigrants, most of whom were in a sick and dying condition. Of 1,700 men and women who had been embarked, 00 died on the voyage, and several hundred more were found be *in extremis* on arrival. In the midst of these horrors the overnor's responsibilities were further increased by the attempts some of the prisoners to escape from the Colony. Some took the bush, others stole boats and put to sea, intending to reach e Dutch settlements in the Indian Ocean. Daring as this latter tempt may appear, it was in one instance successful; two men nd a woman, in an open boat, succeeded in reaching Timor, here they were imprisoned and sent back to Sydney on the first pportunity. Numerous efforts were made to escape from the settlement by land, the ignorance of the convicts being such that many imagined they could walk overland to China, and not a few perished in the bush while making the attempt.

Escape of prisoners.

Departure of Phillip.

Governor Phillip's health gave way under the care and anxieties of his office, and in 1792 he returned to England, where in reward for his exertions in founding the Colony he received a pension, and died at an advanced age. Major Grose and Captain Paterson, officers in charge of the military, administered the Government till the arrival of his successor. In 1795, Captain Hunter, who after the loss of the Sirius had gone to England, arrived as the second Governor. With the arrival of Governor Hunter affairs took a new turn. He brought out a number of free settlers, mostly farming men; and some fine alluvial land having been discovered on the banks of the Hawkesbury, farming was successfully started, and in a short time more than 6,000 acres were under crops of wheat and maize. The attempts to introduce cattle were for a time unsuccessful, but in 1796 a herd of 60 head was discovered at the "Cowpastures," near Camden. These were the descendants of some cattle which had strayed from the settlement several years before. Though their quality was found to have deteriorated, they proved a very welcome addition to the live stock of the settlement. In 1800, when Captain Hunter left the Colony, the population was over 6,000; attempts had been made to penetrate into the interior, but without success; the Hunter River and its coal-

Pastoral enterprise initiated.

mines had been discovered, and the mines were being worked by a detachment of prisoners; the city of Newcastle had been founded, and the New South Wales Corps, a military body enlisted for service in the colony (the first detachments of which had arrived in 1790), formed an efficient garrison, and guard over the more refractory prisoners. During Governor Hunter's term of office Bass and Flinders minutely examined the coast to the south of Sydney, in a small boat only 9 feet over all; and the former discovered the strait which bears his name, thus proving Tasmania to be an island, and not the southern extremity of the continent, as previously supposed.

Newcastle founded.

Governor King.

The next Governor was Philip Gidley King, previously mentioned as the Lieutenant of the Sirius, who was despatched by Phillip to found a settlement on Norfolk Island. Though all fears of famine had now disappeared, Governor King soon found himself involved in difficulties of a scarcely less distressing nature. To explain these it will be necessary to describe the constitution of the New South Wales Corps. This body had been specially raised for service in the Colony, the officers of the King's regiments not unnaturally objecting to be sent to such a far distant settlement, where they knew that they would find no intellectual occupation, and where their sole work would consist in acting as a prison guard, or, at most, in making a few raids, in alleged reprisals for the misdeeds of the illused, and often sorely provoked, aborigines. As a military guard of some sort was necessary, this corps was raised, and a few enterprising spirits—many of whom had never served before—were induced to accept commissions, with the view of obtaining grants of land and making their fortunes in the Colony. Unfortunately, the readiest means to this end was found in the import trade, and as rum was in great request, the officers of the New South Wales Corps became importers of that spirit in large quantities, and even set up private stills, in defiance of a Government order to the contrary. As an instance of the enormous profits made in this trade, it may be mentioned

Traffic in spirits

that the retail price of rum, on the arrival of Governor King, was £2 per gallon, 7s. 6d. to 10s. being the utmost cost to the importer. To put a stop to this state of things—in which the officials and rulers of the Colony were really doing their best to debase those committed to their charge—a clause was inserted in the instructions of the new Governor, as follows:—"You are to order and direct that no spirits be landed from any vessel coming to Port Jackson without your consent." In consequence of this order, King proceeded to act promptly, and when he left the Colony in 1806, he had sent away no less than 69,484 gallons of spirits, and 31,293 gallons of wine. The quantity which he allowed to be landed was sold, by his order, at various prices, the maximum not exceeding 10s. per gallon. It may be easily imagined what a storm such vigorous proceedings caused among the importers, and how embittered the officers of the New South Wales Corps became against the Government.

Suppression of the "Rum currency."

During King's time a serious mutiny occurred among the prisoners. The more tractable of the convicts were "assigned" as servants to the settlers, and engaged in working the farms and squattages, but the more desperate characters, made desperate in many instances by the treatment they received, were worked on the roads, in chain-gangs. A party of over 300 of these chain-gang men was employed at Castlehill, on the road between Parramatta and Windsor. These men, taking advantage of the small number of their guard, abandoned their work, managed to remove their irons, seized some firearms, and marched towards the Hawkesbury, expecting to be reinforced by the men employed in that neighbourhood. Major Johnston, second in command of the New South Wales Corps, pursued them, however, with only twenty men, and on coming up with them, charged with such precipitation that the mutineers were fain to lay down their arms and beg for mercy. Three or four of the ringleaders were afterwards hanged, and the rest were permitted to return to their duty on undertaking to be of good conduct for the future.

The Castlehill Revolt.

Initiation of wool-growing.

An event of the utmost importance to the Colony also took place under the administration of Governor King. This was the initiation of wool-growing. John Macarthur, who had held a commission as captain in the New South Wales Corps, procured, by great trouble and perseverance, some Spanish merinos, and having obtained a grant of 10,000 acres of land across the Cowpasture River, which estate he named "Camden," commenced the growth of wool on a large scale. In a short time his enterprise showed every sign of a successful issue, to the great benefit of the Colony generally, and his own personal advantage. In spite of these evident signs of material progress Governor King was so worn out with the conflicts caused by his endeavours to suppress the rum traffic, and in such constant collision with the officers of the New South Wales Corps on that account, that he seized the first opportunity of leaving the Colony, and was succeeded in the Government in 1806, by William Bligh, a post-captain in the navy.

Governor Bligh.

Governor Bligh was a distinguished naval officer. His wonderful voyage after the Mutiny of the Bounty had caused the Imperial Government to entertain a high opinion of his conduct, as well as his courage and determination. His services were numerous, and he had been publicly thanked by Lord Nelson, after the bombardment of Copenhagen, for the gallantry and skill which he displayed on that occasion. Hence he was selected as a fit man to crush the clique of officers engaged in the rum traffic, and to purify official life in the Colony. King had been only partially successful in this direction, and the British Government, in the belief that he had been too yielding, or at least not physically able to put down the traffic, gave the strictest injunctions to Captain Bligh to stop the trade in spirits. Accordingly in March, 1806, he issued the following general order :—"His Excellency the Governor laments to find by his late visit through the Colony that the most calamitous evils have been produced by persons bartering, or paying, spirits for grain of all kinds, and the necessaries of life in general, and to labourers for their hire ; such proceedings depressing the industrious and depriving the settlers of their comforts. In order, therefore, to remedy these grievous complaints, and to relieve the inhabitants, who have suffered by the traffic, he feels it his duty to put a total stop to this barter in future, and to prohibit the exchange of spirits or other liquors as payment for grain, animal food, wearing apparel, or any other commodity whatsoever, to all descriptions of persons in the Colony and its dependencies."

This order is in itself sufficient to indicate to what fearful lengths the "rum currency" had been carried. Naturally it would have been expected that all respectable people, the military and ex-military especially, would have joined the Governor heart and soul in his efforts to put a stop to the traffic, and induce a more healthy state of things. Such, however, was not the case; and the struggle in respect to the illicit trade continued throughout the whole period of Bligh's governorship.

Embittered relations between the Governor and settlers.

Other matters embittered the relations between the Governor and the colonists, and in these Bligh was not so obviously in the right as in his attempt to put down the contraband traffic in spirits. The contest reached its climax on the arrest of John Macarthur, whose efforts to promote the growth of wool have been alluded to. That gentleman had become specially obnoxious to the Governor; and as he was also the chief trader in the community, he was selected as a scapegoat for the sins of the rest. Matters were brought to a crisis in the following manner, though the immediate circumstances of his prosecution had no direct connection with the barter of spirits. Mr. Macarthur had been part owner of a vessel that traded to Tahiti for salt pork and other articles, for the supply of the Colony. At a time when this vessel was lying in Port Jackson, he received a summons from Mr. Atkins, the Judge Advocate—that is, Chief Justice—to appear before him to answer to a complaint on the part of the crew of his vessel of withholding from them their wages, in consequence of which they alleged that they had been compelled to break through the port regulations, by coming ashore without special order. Macarthur returned an answer in writing, explanatory of his conduct in the matter, but did not obey the summons by appearing in person. This was construed to be an act of contumacy, which some attributed to a feeling of personal resentment towards the Governor, engendered by the action of the latter against the "rum currency."

rrest of
acarthur.

A warrant was accordingly issued for Macarthur's apprehension, and on the 25th January, 1808, he was brought before the Judge Advocate and a military jury of six, consisting of officers of the New South Wales Corps—such being at the time the composition of the Supreme Court of the Colony. Mr. Macarthur objected to the Judge Advocate sitting on his trial, on the ground that he bore him personal ill-feeling, for which assertion it would appear that there was some foundation, especially as Atkins's adviser throughout the whole proceedings was one George Crossley, a transported attorney, who is believed to have been an enemy of Macarthur. Be this as it may, the Judge Advocate refused to abdicate his position, and the Governor declined to supersede him, for which, indeed, he had no authority, Atkins having been appointed by the Home Government.

nduct of the
ilitary officers

At this juncture the Governor summoned the six officers to his presence, to explain their conduct in supporting Macarthur's protest and refusing to sit with the Judge Advocate, but they declined to obey. The Governor also sent several times during the next day to Major Johnston, the Commandant, at his residence at Annandale, asking him to confer with him as to the conduct of his subordinates. That officer, however, declined to come to town, on the plea of ill-health. This was an evident subterfuge, for between 6 and 7 p.m. on the same day (the Anniversary of the foundation of the Colony) he suddenly made his appearance in the Barrack Square, where, if we may believe his statement, he found everything in a state of ferment and confusion, and himself beset with the clamours of a number of the leading inhabitants, civil as well as military, calling upon him to put the Governor under arrest. He accordingly marched at the head of his regiment, Deposition of Bligh.

with drums beating and colours flying, to Government House, and Governor Bligh was put in close confinement in his own residence. Johnston thereupon assumed the Government, his first act being to suspend the Judge Advocate, the Commissary, the Provost-marshal, the Chaplain, and other principal officials, and to appoint others to act in their place.

Major Johnston continued to administer the Government till his Lieutenant-Colonel (Foveaux) superseded him, as the senior officer in the Colony, and eventually Colonel Paterson came from Tasmania and assumed the direction of affairs. Both these officers approved Johnston's proceedings, but the latter set Bligh at liberty after a detention of twelve months, on condition of his proceeding straight to England, in a vessel which was then ready to sail. Bligh promised to do so, but called at Tasmania on his way, where the military authorities attempted to detain him, but he escaped their hands.

News of the affair had meanwhile reached England, and the Government was very much concerned at the proceedings of the military, and had despatched Lieutenant-General Macquarie to the Colony as Governor. His instructions were to reinstate Governor Bligh for twenty-four hours, to assume the government himself, and to send Johnston home under close arrest. Bligh could not be reinstated, as he had left Sydney; so Macquarie's first act was to arrest Major Johnston, who was subsequently tried by court-martial and sentenced to be cashiered, the leniency of the sentence being such as to call forth special remark from the Prince Regent, in a minute appended to the proceedings distinctly stating that it was not to be drawn into a precedent. Johnston afterwards returned to the Colony, and died at his estate at Annandale.

Johnston tried by Court Martial.

Arrival of Macquarie.

With the arrival of Governor Macquarie, the colony entered on a stage of decided progress. The final abolition of the traffic in rum was followed by a marked improvement in the morals of the population. Schools were established, and the children, who had hitherto grown up in total ignorance, were taught to read and write, and instructed in useful handicrafts. An impetus was given to exploration, and the dwellings of the settlers in the bush were much improved by the efforts of the Governor during the annual tours which he made through the Colony. Churches and public buildings were erected, asylums founded, and a better tone was given to society generally by the exertions of this philanthropic governor, ably seconded by the endeavours of his high-minded wife, who laboured to improve the condition of her sex and the children in the Colony. Among the many beneficial works undertaken by Macquarie, by far the most important was the road over the Mountains, via Lapstone Hill and Mount Victoria, to Bathurst. After many attempts to penetrate the Coast Range, it was at last successfully crossed in 1813 by Blaxland, Wentworth, and Lawson, names memorable in the annals of the Colony. An account of the expedition will be found in another place.

Schools and Churches opened.

Macquarie's policy.

Another distinguishing feature in Governor Macquarie's policy, which was almost as beneficial as his efforts to instruct the population in religion and morality, and to open up the country, was the favour with which he treated the "emancipists," that is, those convicts who had become free by serving out their sentences. When it is remembered that the majority of those transported had been guilty of petty offences only, or of acts which would not in these days be deemed offences at all, the Governor's determination to give every encouragement in the way of official recognition to emancipists must be strongly commended. To transport a person for a petty offence, to ostracise him for the rest of his life, and to extend the social ignominy to his children was in the highest degree unjust; and Governor Macquarie, as a humane man, set his face against the custom. In religious matters he showed a largeness of mind, in advance of public opinion, by removing, as far as lay in his power, the religious disabilities under which a large section of the colonists laboured. In 1821, after a longer term of office than has been allotted to any Governor either before or since, "L. Macquarie, Esq.," as he modestly styles himself in the inscriptions on the public buildings he erected—discarding the prestige attaching to his military rank—left the Colony, to the regret of the entire population, and was succeeded by Sir Thomas Brisbane.

Governor Brisbane.

The new Governor trod in the steps of his predecessor. He carried on the work of exploration, and in 1823 despatched Mr. Oxley, Surveyor-General, to survey Moreton Bay, Port Curtis, and other parts of the north-eastern coast-line. Oxley discovered a river debouching into Moreton Bay, which he named after the Governor, and a town was founded on its banks, also named Brisbane, which has become the capital of the Colony of Queensland. The Murray and Murrumbidgee Rivers were discovered soon afterwards by Hovell and Hume, who had formed an exploring party under the auspices of the Governor. The immigration of free settlers was much encouraged by Sir Thomas Brisbane, the result being the arrival of numbers of young men, many possessing capital, who became squatters, and soon wrought an important change in the Colony, by causing the costly Government farms to be broken up. As a consequence the wants of the community were more cheaply and better supplied by private enterprise. Censorship of the press, which had been strictly enforced up to this time, was abolished by Governor Brisbane, by proclamation dated 15th October, 1824. Trial by jury was introduced about the same period, by which the privilege of being tried by his peers was extended to every man, the assessors to the judge before that time having been chosen exclusively from officers in the army. Sir Francis Forbes, the first Chief Justice, was mainly instrumental in introducing this great and salutary change in the administration of the law. The first normally constituted jury sat at the November Quarter Sessions of 1824. An Act had also been passed by the Imperial Parliament, in 1823, which conferred another most important privilege on the Colony. It was provided that the Governor should nominate a Legislative Council of seven members, by whose advice he was to be guided. Previously to the appoint-

Trial by Jury introduced.

ment of this Council the Governor had been virtually absolute in power, the only check upon him being the public opinion of the colonists and the authority of the British Government, as represented by the Secretary of State for the Colonies. This Council of Seven was really the nucleus around which have gathered our present Constitution and the liberties we now possess. It was the first step, in which, says the proverb, all the difficulty consists; and yet it was only after much agitation that even this modicum of justice was conceded.

Governor Darling.

The next Governor was Sir Ralph Darling, who, finding the Colony in the state of progress above described, by a series of blunders nearly succeeded in marring the beneficial result of the efforts of his predecessors. Arriving in Sydney in 1825, he soon became involved in very serious disputes with the colonists and the press. In order to meet the criticisms of the latter, a number of Acts were passed by the Council which had the effect of stifling obnoxious comments for the time. One good result which sprang indirectly from these arbitrary acts was the enlargement, in 1828, of the Legislative Council from seven to fifteen members. The "Bushranging Act" was passed by this Council to put down a prevalent nuisance—the gangs of escaped prisoners who infested the principal roads and robbed all-comers without distinction.

Exploration.

The work of exploration made some progress in Governor Darling's time, the famous journeys of Captain Charles Sturt being undertaken under his sanction. Other explorers were Allan Cunningham, Hume, and George Macleay, son of Alexander Macleay, the Colonial Secretary of that day.

French settlements suspected.

It was strongly suspected at this time that the French had an idea of forming settlements in Australia. French ships constantly appeared off the coast, ostensibly fitted out for the purpose of making geographical discoveries, but really, it was believed, to found a colony in any Australian territory which they might find unoccupied. To frustrate this suspected design, Darling despatched wo expeditions, in 1826, to King George's Sound and to Western Port, in which neighbourhood it was surmised the French were overing. To show that there was some ground for these fears, himerical as they may now appear, it will be sufficient to quote he Governor's instructions to the officers in charge of the expeitions. He says :—"Should you find the French already in ccupation, you will, notwithstanding, land the troops, and signify o the Frenchmen that their continuance with any view of stablishing themselves, or colonization, will be considered an njustifiable intrusion on his Britannic Majesty's possessions." No Frenchmen, however, were found at either of the places named, nd settlements were therefore promptly formed at Western Port, King George's Sound, and Swan River, in Western Australia. When Governor Darling left the Colony in 1831, much progress had been achieved, in spite of the newspaper war, and his personal unpopularity, the population having reached over 51,000 for the whole of New South Wales, while the value of the total exports was £500,000.

New settlements formed.

Governo Bourke.

The unpopularity of Governor Darling gave a factitious advantage to his successor, Sir Richard Bourke, even before his sterling qualities had become known. Sir Richard Bourke may be said to have been the real founder of our present free institutions, as, under his rule, the foundations of the Constitution we now enjoy were well and firmly laid, on the solid basis of full and equal rights to all, whatever their sect or belief, and whether emancipist or originally free. Immigrants began to arrive in large numbers, under a policy of assisted immigration, which was then first commenced. The first vote in aid of immigration was made by the Legislative Council at Bourke's suggestion, and the British Government doubled the amount given by the Colony. Under that system the first batches of immigrants to arrive were fifty young women from an orphan school in Cork, and fifty-nine mechanics from Scotland, whom the Rev. Dr. Lang introduced to aid him in building the Australian College.

Establishment of Religious Equality.

But the great achievement of Sir Richard Bourke's reign was the establishment of religious equality, and the breaking up of the monopoly of Government aid enjoyed by one communion. For his services in the cause of liberty, in this and other instances, a movement was set on foot after his departure—which took place in 1837, twelve months after the passing of the Church Act—to erect a statue of him in Sydney. Mr. Westmacott was commissioned to design a figure of Sir Richard in bronze, which, together with a granite pedestal, arrived in Sydney in 1842. It was erected where it now stands, at the Macquarie-street entrance to the Domain, opposite to the Public Library, and was unveiled on the 11th April, 1842. A general holiday was proclaimed on the occasion, and the assemblage was the most numerous which had up to that time gathered, for any purpose, in the metropolis. The succeeding Governor, Sir George Gipps, delivered a speech, laudatory of his predecessor, in whose steps he said he was resolved to tread. This was the first statue ever set up in Australia. It was no more than a fitting tribute to the virtues of the Governor, and serves even now as a reminder of the new order of things which he introduced.

Governor Gipps.

Free grants of land abolished.

Free grants of land were abolished at this time. All land in the settled districts was put up to auction at an upset price of 5s. per acre, except in the Port Phillip district, where £1 per acre was fixed as the lowest price, on account of the fitness of the land for agriculture. Beyond the settled districts the runs of the squatters, whose boundaries had hitherto been undefined, were marked out, and a small rent charged, in return for a partial fixity of tenure, the squatters having previously been liable to be turned out at any time.

Sir Thomas Mitchell's explorations.

The famous expeditions of Sir Thomas Mitchell, who had succeeded Oxley as Surveyor-General, were undertaken during Bourke's tenure of office. The first was to the north, as far as Liverpool Plains; in the second, the country between the Bogan and the Macquarie was surveyed; and in the third, the course of the Darling was traced, from its source to its junction with the

Murray. In the fourth, Mitchell discovered the rich lands of Victoria, which so enraptured him that he named the country Australia Felix.

Transportation abolished.

The reign of Sir George Gipps was marked by the abolition of transportation. The system of assigning convicts as servants to the settlers had ceased in 1838, and transportation itself was abolished by an Order in Council in 1840, though an attempt was made to revive it nine years later, an account of which will be given in due course. For many years previous to its abolition, the system of transportation was viewed with great disfavour by the colonists, and a powerful league was formed as early as 1830, to bring about its cessation. During the fifty-two years when New South Wales was open to receive British prisoners, the number of convicts sent to Sydney was 83,290, of whom 70,928 were males and 12,362 females. At the census of March, 1841, there were in the colony 14,718 males and 3,530 females, originally bond, but free by servitude or emancipation—in all, 18,248 persons; and 21,367 males and 3,122 females, whose period of servitude had not expired—a total of 24,489 persons.

Legislative Council established.

The great event of Governor Gipps's time was undoubtedly the introduction of a new Constitution, by the establishment of a Legislative Council composed of thirty-six members, twelve of whom were to be nominated by the Crown, and the remainder elected by those who were placed on the electoral roll, a small property qualification being required. The new Council met on 1st August, 1843.

Commercial crisis.

A great commercial crisis followed soon after the introduction of the new Constitution, so that the subject of paramount importance which engaged the attention of the Legislature was the financial condition of the Colony. The cessation of transportation had, of course, caused the withdrawal of large sums of British money, which used to be spent on public works and in maintaining the prison establishments, and the military necessary to guard them; and much distress was also caused by an unwise interference on the part of the Imperial Government with the land laws. The commercial depression which supervened was very serious. The price of land and stock came down to zero. Sellers were many, but buyers were few. The price of sheep fell in the most alarming manner, 1s. per head being a common price. Mr. O'Brien, who occupied a run in the Yass District, at length hit upon the happy idea of boiling down sheep for tallow, for which at the time there was a good market in Europe; and the price of sheep was thus raised to 3s. or 4s. a head, five shillings' or six shillings' worth of tallow being obtainable by the process of boiling-down. A great many failures occurred about this time, the most important being that of the Bank of Australia, the liability of whose shareholders was unlimited.

Boiling-down introduced.

The Legislative Council, imagining that the very existence of the Colony was threatened by the state of things prevailing, sought to "avert ruin"—to use their own expression—by "pledging the public credit," but the Governor refused the Royal assent to the Bill passed for that purpose. It was then proposed to issue Treasury Bills, but the Council would not entertain the idea. The failure of the Bank of Australia brought affairs to a crisis, and it was proposed to relieve the shareholders of their liability by a Bill empowering the bank to dispose of its assets by a public lottery. No attempt was made to defend lotteries in general, but it was contended that if the goods of proprietors of the bank were seized under executions, the bailiff would be seen in possession of one house in ten in Sydney, and that the result would be a panic, which would annihilate the value of property. Under pressure of such an argument as this the "Lottery Bill" passed, but was disallowed by the British authorities. The necessity of the case was so urgent, however, that the lottery took place, and was successfully completed before the law officers of the Crown could interfere to prevent it. Desperate diseases require desperate remedies, and the lottery was, no doubt, in the main beneficial.

The Bank of Australia Lottery.

Separation of Port Phillip.

The first agitation for the separation of the Port Phillip district, and its formation into a separate colony, took place towards the close of Governor Gipps's administration, and the claims of the trans-Murray residents to govern themselves were ably advocated by Dr. Lang, one of the six members returned by the whole of the present Colony of Victoria. It must be remembered that the entire population of what is now New South Wales, Victoria, and Queensland did not, at that period, exceed 150,000, of which the Port Phillip district contributed only 30,000. Their distance from the seat of Government, nevertheless, justified the demand of the Victorians for separation, which was conceded in 1851, to their great permanent benefit.

Governor Fitzroy.

Sir George Gipps was succeeded as Governor by Sir Charles Augustus Fitzroy, in whose tenure of office occurred several of the most important events in the history of Australia. These, in the order of their happening, were the final abolition of transportation in 1849; the separation of Victoria in 1851; the discovery of gold in the same year, and the establishment of Responsible Government in 1855–6.

Attempt to revive transportation.

Prisoners had ceased to be sent to New South Wales in 1840, but owing to the great depression of trade which prevailed during the rule of Governor Gipps, station properties, in 1849, so depreciated in value as to threaten ruin to their holders. Many of the squatters thought that a revival of the system of assigned servants would be beneficial to their interests, and, as it happened, the Imperial Government wished at that time to possess once more a large penal colony. Two powerful interests therefore were allied in an effort to re-establish transportation, and the system of assigned servants. To meet this threatening combination, a number of public meetings were held in Sydney under the auspices of the Anti-transportation League, and an overwhelming expression of popular opinion, most vehemently adverse to the scheme, was given; nevertheless the British Government, under the advice of Sir Charles Fitzroy, persisted in their endeavours to force

Attempt to revive transportation.

prisoners upon the unwilling inhabitants of the Colony. Several ship-loads of convicts were accordingly sent out, and an attempt was made to land them in the first instance at the new settlement at Port Phillip, now the City of Melbourne. The settlers there, however, would not tolerate the proceeding, whereupon the ships were compelled to leave for Sydney and Moreton Bay, now Brisbane. One of the vessels, named the Hashemy, cast anchor in Port Jackson, and there immediately ensued a serious contest between the inhabitants and the Executive. Immediately on the fact becoming publicly known that the Hashemy was off the Heads with convicts on board, the people of the metropolis were lashed into a fever of excitement, and a great public meeting was forthwith convened to consider what steps should be taken in this pressing emergency, as it then was universally considered.

Landing of convicts forbidden.

The result was that the Government saw fit to forbid the landing of the prisoners at that time, not caring to face the obloquy and public indignation which the adoption of any other course would certainly have brought upon them. As, however, the Hashemy could not be sent back, and as her prisoners could not permanently remain on board, a compromise was entered into. The prisoners were removed from the ship, and a large batch sent to Moreton Bay, in order that the settlers in that district might have an opportunity of hiring them. The remainder were allowed to be assigned to various persons in the Colony, though it was stipulated that the men should not be landed in Sydney, nor employed in the county of Cumberland.

The Legislative Council afterwards proceeded to take action in the matter, and a resolution was proposed, to the effect "that an address be presented to Her Majesty, praying that the Order in Council which declared New South Wales a Colony to which convicts might be sent be at once revoked." The adjournment of the Council was, however, agreed to before the motion could be

Anti-transportation meetings.

put. In consequence of this partial shelving of the question an overwhelming public meeting was held, which petitioned the

Council to use its utmost endeavours to prevent the revival of transportation in any form. The petition in a short time was signed by over 35,000 persons (more than two-thirds of the population of the metropolis). There was no resisting this manifestation of public opinion, and the pro-transportation members temporarily withdrew from the Council, whereupon the motion stated above was carried unanimously, and the address to the Queen was accordingly transmitted. The Order in Council was revoked, and transportation to New South Wales was thus, after many years of fretful agitation, absolutely and finally abolished. The discovery of gold, which shortly followed, gave a new impetus to Australian society, and by developing the industry and wealth of the country rendered a return to the "prison times" for ever impossible.

Final abolition of transportation.

The discovery of gold, in 1851, was by far the most important incident which had yet occurred in the annals of the country. An account of that remarkable event will be found in its proper place, but a few remarks are here called for as to the historical bearing of the great discovery. For many years previous to 1851 it was known that small quantities of gold had been found in the Bathurst district, and a colonist offered, during the administration of Sir George Gipps, to conduct the Government surveyors to a spot where he said gold existed in payable quantities. The project was, however, discouraged. The Colony was enjoying at the time a period of great prosperity, the depression of previous years having been successfully tided over; and it was probably thought unadvisable by the authorities to disturb the settled industries of the Colony, by the incitement to speculation which the gold fever would generate.

Discovery of gold.

A few years passed away, and the recollection of the supposed gold discoveries was still fresh in men's minds. The prosperous days with which Governor Gipps's administration closed gave place to less fortunate times. Wages were low and work scarce, when suddenly the tale of the gold discovery was on every tongue.

Gold fever.

irst
ts.

In the early part of 1851 nuggets began to arrive in Sydney. They had been found in the vicinity of Bathurst, and their inspection by the public raised a wave of excitement, which affected all classes. It is not surprising that the possibility of amassing a fortune in a few months—which seemed indisputable from the presence of so many specimens of gold—should have induced hundreds of people of all ranks to abandon their employments, and set out for Bathurst. Nor could news of such a nature be confined within the Colony, and before many months had elapsed, the presence of gold in Australia was known all over the world. Then followed a mighty rush from every quarter of the globe of the most enterprising spirits, and those physically the most capable of enduring the unknown hardships before them, a circumstance on which Australians in the future will have occasion to congratulate themselves, for the splendid physique of the early colonists, already manifested in their sons and daughters, must undoubtedly become the inheritance of succeeding generations.

ts of the
very of

The effect produced on society by this most fortunate discovery, was unpleasant enough at first. Stations throughout the Colony were left without hands, and all ordinary occupations were threatened with extinction, in consequence of the general exodus to the gold-fields. The squatters even petitioned the Government asking that martial law might be proclaimed, and all gold-digging peremptorily prohibited, in order that the ordinary industrial pursuits of the country should not be interfered with. The Governor however, refused to accede to this manifestly absurd request. So great a change in the circumstances of the country as that wrought within so short a time by the gold discovery, could not fail to affect many persons prejudicially. But after a few years, affairs resumed their normal course, and gold-mining found its level as one of the ordinary industries of the country. But the great and permanent benefit which resulted from the influx of an enterprising population, the increase of wealth, and the consequent development of many other industries cannot be overrated.

Nothing, since the introduction of wool-growing, has tended to develop its resources and to make so widely known the great advantages which Australia offers to the overcrowded populations of the Old World, as the discovery of gold in 1851. Since that era the country's progress has been by leaps and bounds, and Australia, which was before regarded merely as a far off dependency of Great Britain, now takes a place amongst the nations of the world, and is in a fair way of realizing the prophetic visions of future greatness which inspired its founders.

Events preceding Responsible Government.

The series of events which led to the introduction of Responsible Government still remains to be touched upon. With a narrative of these, and an account of the actual inauguration of representative institutions—that is, with the political occurrences of 1855—this narrative will fitly close. All occurrences since that period have been treated as far as possible as matters of statistics, and will be found in their places in other parts of this volume.

Strong disapprobation of the Constitution of the Colony was displayed long before the discovery of gold; but the actual cause of the dissatisfaction became very manifest during the years immediately preceding 1855. The government of the Colony as a Crown dependency, had long been felt to be a galling one, and the increase of population, caused by the break-out of the gold-diggings, furnished the opportunity for successful agitation. A handful of people might have been governed under the old system, but not such a community as New South Wales had become in 1854.

Victoria erected into a separate Colony.

In 1850-1 an Act was passed by the Imperial Parliament (13 and 14 Vict., No. 59) in accordance with which the dependency of Victoria was erected into a separate Colony, and a Constitution was to be conferred upon New South Wales. Accordingly, in 1852, a Select Committee of the Legislative Council was appointed to prepare a Constitution for the Colony in pursuance of the powers conferred by the Act above cited. The first result of the labours of the Committee was that a remonstrance was sent to the Secretary of State for the Colonies, directed not so much against the old form of government, as against the amendment of the Constitution, which it was proposed to introduce. Subsequently, after much correspondence, and the receipt of a despatch from the Secretary for the Colonies, Sir John Pakington, practically conceding all that the colonists demanded, a Committee of the Legislative Council was appointed to draft the new Constitution. It consisted of the following gentlemen:—Messrs. Wentworth, Deas-Thomson, James Macarthur, Cowper, Martin, Macleay, Thurlow, Murray, and Dr. Douglas.

Framing of the Constitution Act.

The Committee, in their report, stated that they desired to have a form of government in perfect accordance with the British Constitution, and that a conservative element ought to be constantly present in the Constitution; and for this reason they declared they did not feel inclined to hazard the experiment of an Upper House based on the general elective franchise. To provide for this Upper House, the Committee gravely made the following recommendations. They proposed that an hereditary nobility should be created, leaving the Crown to decide whether or not to give the first holder of a title a seat for life, and that the aristocracy, to be thus established, should, in the future, elect a certain number of their order to form the higher branch of the Legislature. The question of federation was also noticed in the report:—"One of the most prominent legislative measures required by the Colony, and the colonies of the Australian group generally, is the establishment at once of a General Assembly, to make laws in relation to those intercolonial questions that have arisen, or may hereafter arise, among them. The questions which would claim the exercise of such a jurisdiction appear to be (1) Intercolonial tariffs and the coasting trade; (2) Railways, roads, canals, and other such works running through any two of the colonies; (3) Beacons and lighthouses on the coast; (4) Intercolonial gold regulations; (5) Postage between the said colonies; (6) A general court of appeal from the courts of such colonies; (7) A power to legislate on all other subjects which may be submitted to them by addresses from the Legislative Councils and Assemblies of the colonies, and to appropriate to any of the above mentioned objects the necessary sums of money, to be raised by a percentage on the revenues of all the colonies interested."

Hereditary nobility proposed.

This report, when it was made public, caused a good deal of commotion in the metropolis, and at a public meeting held at the Royal Hotel, the following energetic protest against part of the scheme was adopted :—"That this meeting views with surprise, and strong feelings of opposition, the scheme proposed for the political constitution of the Colony, especially in respect to the establishment of an Upper House of Crown nominees, and a certain unprecedented order of colonial nobility ;" and a further resolution decided that "a larger meeting should be held, in order to record a protest against a measure so repugnant to the feelings of British subjects, and fraught with so much danger to the political rights of the people." A more numerous meeting was accordingly held, the principal speakers at which were Mr. (now Sir Henry) Parkes, Messrs. Robert Johnson, Montefiore, Deniehy, Mort, Piddington, Flood, and Archdeacon McEncroe.

The new Constitution adopted.

In spite of these meetings the Council proceeded to debate the Report as it stood. After a great deal of opposition, in order to retain the "aristocratic" clause, and after the holding of more public meetings, the "Constitution Act," the basis of the rights we now enjoy, was finally passed on the 21st December, 1853. This Act established two Legislative Chambers. The first was to consist of not less than twenty-one natural-born or naturalized subjects, four-fifths of whom were to be persons not holding any office of profit under the Crown, who were to be nominated by the Governor in the name of the Queen. The first members were to hold their seats for five years, at the expiration of which period all appointments were to be made for life. The President was to be appointed by the Crown. The Legislative Assembly was to consist of fifty-four members, the qualification for the franchise being fixed as follows:—All inhabitants of full age, being native-born or naturalized subjects of the British Crown, and not having been convicted of any crime—or, if convicted, pardoned—and having paid all rates and taxes for which they were liable, were placed in the condition precedent required for either voting or being elected to the Assembly, but they were required, in addition, to be qualified in the following respects:—As the owner of a freehold estate of £100; as householders, lodging occupiers, or leaseholders for three years at £10 per annum. To these were added boarders at £40 per annum, persons receiving £100 a year salary, and pasture-license holders for one year. Ministers of religion were declared incapable of being elected to the Legislature.

Inauguration of Responsible Government.

About the middle of the year 1855 an Act was passed by the Imperial Parliament empowering the Queen to assent to the Bill drawn up by the Council, and on the 19th December, the new Constitution was formally inaugurated by the new Governor-General, Sir William Denison, who had just succeeded Fitzroy, being sworn in afresh under a Commission from the Queen, which revoked his former credentials and appointed him "Governor-in-Chief" of New South Wales.

Succession of Governors.

The succession of Governors from the foundation of the Colony to the present time is given in the following table:—

Names.	From	To
Captain A. Phillip, R.N.	26 Jan., 1788	10 Dec., 1792.
Captain F. Grose (Lieutenant-Governor)	11 Dec., 1792	12 Dec., 1794.
Captain Paterson, New South Wales Corps (Lieutenant-Governor).	13 Dec., 1794	1 Sept., 1795.
Captain Hunter, R.N.	7 Sept., 1795	27 Sept., 1800.
Captain P. G. King, R.N.	28 Sept., 1800	12 Aug., 1806.
Captain W. Bligh, R.N.	13 Aug., 1806	26 Jan., 1808.

Succession of Governors.

Names.	From	To
During Governor Bligh's suspension the Government was successively administered by—		
Lieutenant-Colonel G. Johnston ... Lieutenant-Colonel Foveaux .... Colonel William Paterson .... — All of the New South Wales Corps, afterwards 102nd Regiment.	26 Jan., 1808	28 Dec., 1809.
Major-General L. Macquarie	1 Jan., 1810	1 Dec., 1821.
Major-General Sir T. Brisbane, K.C.B.......	1 Dec., 1821	1 Dec., 1825.
Colonel Stewart, 3rd Regiment (Acting Governor).	6 Dec., 1825	18 Dec., 1825.
Lieutenant-General R. Darling	19 Dec., 1825	21 Oct., 1831.
Colonel Lindsay, C.B. (Acting-Governor)...	22 Oct., 1831	2 Dec., 1831.
Major-General Sir Richard Bourke, K.C.B.	3 Dec., 1831	5 Dec., 1837.
Lieutenant-Colonel K. Snodgrass (Acting Governor).	6 Dec., 1837	23 Feb., 1838.
Sir George Gipps	24 Feb., 1838	11 July, 1846.
Sir Maurice O'Connell (Acting Governor) ..	12 July, 1846	2 Aug., 1846.
Sir Charles A. Fitzroy........................	3 Aug., 1846	17 Jan., 1855.
Sir William Thomas Denison, K.C.B.	20 Jan., 1855	22 Jan., 1861.
Lieutenant-Colonel John F. Kempt (Administrator).	23 Jan., 1861	21 Mar., 1861.
The Right Honorable Sir John Young, K.C.B., G.C.M.G. — Administrator	22 Mar., 1861	15 May, 1861.
The Right Honorable Sir John Young, K.C.B., G.C.M.G. — Governor-in-Chief...	16 May, 1861	24 Dec., 1867.
Sir Trevor Chute, K.C.B. (Administrator)...	25 Dec., 1867	7 Jan., 1868.
Right Honorable the Earl of Belmore, P.C.	8 Jan., 1868	22 Feb., 1872.
Sir Alfred Stephen, Knt., C.B. (Administrator).	23 Feb., 1872	2 June, 1872.
Sir Hercules George Robert Robinson, G.C.M.G., Governor-in-Chief.	3 June, 1872	19 Mar., 1879.
Sir Alfred Stephen, K.C.M.G., C.B. (Lieutenant-Governor).	20 Mar., 1879	3 Aug., 1879.
The Right Honorable Lord Augustus William Frederick Spencer Loftus, P.C., G.C.B.	4 Aug., 1879	9 Nov., 1885.
Sir Alfred Stephen, G.C.M.G., C.B. (Lieutenant-Governor).	10 Nov., 1885	11 Dec., 1885
The Right Honorable Charles Robert, Baron Carrington, P.C., G.C.M.G.	12 Dec., 1885	(still in office.)

PART II.

Limits and Area.

Boundaries of the Colony.

THE Colony of New South Wales lies almost entirely between the 29th and 36th parallels of south latitude, and between the 141st and 153rd meridians east of Greenwich. It is bounded on the east by the Pacific Ocean, to which it presents a coast-line extending over 700 miles, from Point Danger at its north-eastern extremity to Cape Howe at the south-east. From the point last mentioned, which is also the north-east limit of the Colony of Victoria, it is bounded by an imaginary line, running in a north-westerly direction to the source of the Indi, a stream rising at the foot of Forest Hill, a few miles south of the Pilot Mountain, one of the most conspicuous peaks of the Australian Alps. The southern boundary of the Colony follows the course of the Indi, and afterwards of the Murray, into which the first-named stream ultimately merges, as far as the 141st meridian of east longitude. The intersection of the Murray with this meridian forms a common point of the three Colonies of New South Wales, Victoria, and South Australia.

On the west, the Colony is separated from South Australia by the line of the 141st meridian, as far as its intersection with the 29th parallel of south latitude, at which point New South Wales, South Australia, and Queensland touch. Commencing at this point, the northern boundary of the Colony follows the 29th degree of latitude, till it is crossed by the Macintyre River, one of the upper branches of the Darling, not far from the 149th meridian. Thence it follows the course of the Macintyre upward, to the junction of its tributary, the Dumaresq; leaving the Macintyre it follows the tributary stream till it meets a spur extending from the main Dividing Range to the junction of Tenterfield Creek and the Dumaresq. The boundary runs along this spur until it joins the main range, thence, almost parallel to the coast, it follows the Dividing Range to Wilson's Peak, where the Macpherson Range branches eastward. Following the last-named range, the northern boundary reaches the coast at Point Danger.

The area comprised within these limits is estimated at 310,700 square miles, or 198,848,000 acres, being a little over two-and-a-half times that of Great Britain and Ireland. Excluding the surface covered by rivers and lakes, the area would be 195,882,150 acres or about 306,066 square miles. Area.

The length of the Colony, from Point Danger on the north to Cape Howe on the south, is 680 miles. From east to west, along the 29th parallel, the breadth is 760 miles, while diagonally from the south-west corner, where the Murray passes into South Australia, to Point Danger, the length reaches 850 miles. Length and breadth.

PART III.

Physical Configuration.

THE surface of New South Wales is divided naturally into three distinct zones, each widely differing in general character and physical aspect, and clearly defined by the Main Dividing Range which traverses the country from north to south. The table-land, which forms the summit of this range, comprises one of the zones above mentioned, and marks the division between the coastal region, forming the eastern watershed, and the great plain district of the interior.

MOUNTAINS, TABLE-LAND, ETC.

Dividing Range. The Main Dividing Range runs almost parallel to the coast, at no great distance from it. On the eastern edge of the table-land the mountains rise abruptly to a height which averages between 2,000 and 3,000 feet, while on the western side they slope gradually towards the great central plain. The geographical centre of the whole mountain system of South-Eastern Australia lies in the south-western portion of New South Wales, close to the confines of Victoria. Here some of the peaks rise to a height of over 7,000 feet above the level of the sea. Mount Kosciusko and Mount Townsend, two of the highest peaks of the Australian Alps, attain an elevation of 7,171 feet and 7,256 feet respectively.

Central Plateau. The central plateau, which these heights dominate, becomes subdivided into several branches, marking the watershed of three distinct river systems. The eastern watershed extends throughout the whole length of New South Wales and Queensland, and drains into the Pacific Ocean. The western watershed, embracing a portion of the three eastern colonies, is drained by the river system of the Murray and Darling into the Southern Ocean. In the southern watershed the Snowy River has its source, its upper basin being entirely in New South Wales, although its waters flow through Victoria and enter the sea near Bass' Straits.

The south-eastern portion of the Colony.

The south-eastern portion of the Colony has the appearance of having been convulsed by some great physical disturbance. The mountains are rugged, and their slopes abrupt, as is also the case in other portions of the Dividing Range, particularly in the Blue Mountains and the eastern parts of New England; but the width and altitude of the table-land are greatest in this portion of the Colony. The average height of the Snowy and Muniong Ranges, which belong to this district, reaches 5,000 feet; and the width of the plateau, in the direction of east and west, may be set down as 100 miles. The altitude of the Monaro district averages 2,000 feet above the sea level; but as the table-land runs northward it decreases greatly in height and in width, until it narrows to only a few miles, with an elevation of scarcely 1,500 feet.

Blue Mountains.

The table-land rises again at the Blue Mountains, where the principal summits attain a considerable elevation, Mount Beemarang reaching 4,100 feet. The general level of the plateau itself will be best understood when it is remembered that the great western railway of the colony traverses a district in these mountains, of which the Clarence siding, Mount Victoria, Mount Wilson, and Blackheath are stations, situated at an elevation of over 3,000 feet. The dividing chain again decreases gradually in its spread northward of the Blue Mountains, until, as a comparatively narrow chain, it divides the waters of the Goulburn and the Hunter, on the eastern slope, from those of the Namoi and the Castlereagh, on the western. The mass once more widens out in the Liverpool Ranges, where Mount Oxley stands conspicuous, at a height of 4,500 feet, whilst, still further north Ben Lomond, reaches 5,000 feet, and the table-land maintains an average altitude of 3,000 feet, giving to this district, although situated at no great distance from the tropics, the climate and aspect of much higher latitudes.

Mountain scenery.

Narrow valleys and deep gorges everywhere break the continuity of the Dividing Range. Such is especially the case in the Blue Mountains, where the scenery is of striking and characteristic grandeur. The table-land everywhere presents one strange peculiarity. The level land suddenly terminates, and many hundred feet below stretch, as far as the eye can reach, wooded valleys, whose undulating floors are walled in by sandstone cliffs, of height so enormous as to be without parallel elsewhere in the world. At the bottom of these valleys small rivulets and tiny streams, fed by waterfalls from the table-land, trace their way, under an ever verdant dome of graceful tree-ferns and giant eucalypti.

The mountain scenery of this part of New South Wales produces on the traveller an entirely new impression. There are no snow-capped peaks upon which the rising and setting sun produces strange and magnificent colour effects; nor does any peculiar shape of the summits strike the imagination, as in the Alps and Pyrenees of the Old World. On the contrary, from the plains the New South Wales mountains look rather insignificant. But gazing from the edges of the high table-land into the deep valleys below, the mind is awed by the realization of the magnificent scale on which Nature has worked in these solitudes. In many places the cliffs rise 2,000 feet perpendicularly from the valley beneath, and the hills at their feet, formed by the accumulation of débris from their sides and from the plateau above, appear as slight undulations. The valleys and sides of the gorges, wherever there is soil, are clothed with dense vegetation, and over all is the mantle of blue haze, which makes the whole effect most striking, and has given to the range visible from Sydney its appropriate name.

Coast Ranges.

The main range throws off many spurs towards the sea on the eastern slope. These divide the waters of the numerous rivers which flow into the Pacific Ocean. Almost everywhere between the coast range and the sea the country is hilly and serrated, more particularly in the southern portion of the Colony. In the Illawarra district, 50 miles to the south of Sydney, the mountains skirt the very edge of the coast, presenting towards the ocean a perpendicular face of cliffs nearly 1,000 feet in height. Further north there are wider valleys, and greater stretches of country available for tillage and pasture.

The western slope is entirely different. Numerous ramifications of the general mountain system are thrown off, but all slope gently towards the great central plain of the interior. So gentle, indeed, is the declivity, that the dividing lines of the various watersheds as they extend westward, are scarcely visible, being only indicated by a succession of low ridges and isolated elevations.

Western Mountain system.

In the extreme west of the Colony, verging on South Australia, another mountain system exists, forming the western edge of an immense depression, through which the largest rivers of the Australian continent hold their devious course. The Great Barrier and the Grey Ranges are part of this system. They consist of low hills, hardly rising to the dignity of mountains, culminating in a few solitary peaks, such as Mount Arrowsmith and Mount Lyell, which attain an elevation of only 2,000 feet above sea level.

Traces have been found of the existence at some earlier period of a range of primary rocks, extending from Orange to Cobar and Wilcannia, forming the watershed between the Lachlan and part of the basin of the Darling. The range no longer exists as a landmark, for, owing to denudation, it has almost entirely disappeared.

Mountains below limit of perpetual snow.

The whole mountain system of New South Wales lies below the limit of perpetual snow. On the south-eastern slopes of the Snowy Ranges, however, and on the summits of the high peaks of the Australian Alps, snow sometimes lingers throughout the year.

LAKES OF THE MOUNTAIN REGION.

On the summit of the Main Dividing Range, and within a few miles of the inland towns of Goulburn, Queanbeyan, and Braidwood, two of the principal lakes of the Colony are situated. Lake George is 16 miles in length and 6 miles in width, draining a basin whose area is about 490 square miles. The lake is situated at an elevation of 2,200 feet above the sea, and the scenery around it is very beautiful. This lake exhibits the phenomenon of a large drainage area without a visible outlet ; for though it receives many small water-courses no stream leaves it. Lake Bathurst, a few miles eastward of Lake George, is another depression on the summit of the Dividing Range, and covers in ordinary seasons an area of about 15 square miles. It is similar in character to Lake George, having no outlet to the sea. Both lakes, in periods of great drought, shrink considerably in area ; but Lake George in most seasons is a fine sheet of water, and now that the railway to Cooma skirts its shores, the attractiveness of its scenery already makes it a favourite resort of tourists.

Lake George.

Lake Bathurst.

THE COASTAL REGION.

Rivers of New South Wales.

Rivers.—The main range already described, traversing the country from north to south, gives rise to numerous rivers flowing into the South Pacific. Compared with the western rivers those of the eastern slope appear insignificant enough. But compared with the principal rivers either of England or France, their relative size and importance are at once manifest.

The Tweed and Brunswick.

In the extreme north of the Colony, the Tweed and Brunswick Rivers flow through a rich country, of semi-tropical aspect. Their courses are short, and bar entrances render them navigable only for small craft.

The Richmond.

A few miles south of the Brunswick, the Richmond descends from the heights of the Macpherson Range, on the slope of Mount Lindsay, one of the highest peaks of the northern table-land. The river has three branches, and is navigable on the northern arm as far as Casino, 49 miles, and on Wilson's Creek to Lismore, 65 miles from the sea. The Richmond drains an area of about 2,400 square miles of country, rugged in its upper basin, and heavily timbered, and in its lower course, flowing through rich alluvial land, where the produce of semi-tropical climes grows luxuriantly.

The Clarence.

Immediately south of the last-named stream is the Clarence—the largest river on the eastern watershed. It takes its rise in a spur of the Main Dividing Range, and runs in a south-easterly direction for 240 miles, carrying a considerable body of water through one of the richest districts of the Colony, and emptying itself into the Pacific at Shoal Bay. The upper part of its basin is very rugged, so much so that its principal tributaries, the Mitchell, Nymboi, Tembarra, and Orara Rivers, rising in the New England table-land, between Armidale and Tenterfield, all flow in an opposite direction to the course of the main stream, generally trending to the north-east, and even, in the case of the Orara, to the north-west. The Lower Clarence is a magnificent stream, averaging half a mile in width from its mouth upwards, for nearly 70 miles, and is navigable for 67 miles, as far as Copmanhurst. Ocean-going steamers of large tonnage ascend the river as far as Grafton, 42 miles from the sea. The area of country drained by the Clarence is over 8,000 square miles, or nearly half as large again as the basin of the Thames, whose course is about as long as the Clarence, but navigable for only 60 miles.

The Bellinger.
The Nambuccra.

Two short rivers, the Bellinger and the Nambuccra, both navigable for some distance by small craft, enter the Pacific between the Clarence and Trial Bay.

The Macleay.

Into Trial Bay, the Macleay, one of the principal rivers of the coast, discharges after a course of 200 miles from its source near Ben Lomond. With its principal feeders, the Gyra and the Apsley, the Macleay drains an area of 4,800 square miles of country, the upper part of which, especially that portion through which the Apsley flows, is extremely rugged and precipitous. Series of waterfalls, some of which have a perpendicular descent of over 200 feet, mark the course of this stream as it runs through narrow gorges, whose sides rise in places to a height of about 2,000 feet. In its lower course the valley widens very considerably into magnificent alluvial plains, fast becoming the home of a numerous and thriving population. The Macleay is navigable for more than 30 miles, as far as the town of Greenhills, a few miles above Kempsey. The country through which it flows is for the most part thickly timbered.

he Hastings.

The Hastings is the next stream met with, emptying itself into the sea at Port Macquarie. The country which it drains is rich, undulating, and densely wooded, and the area within its watershed is 1,400 square miles. Its chief arm is formed by the Wilson and Maria Rivers, on the left bank, the latter joining the main stream at Port Macquarie.

he Manning.

The Manning rises in the Main Dividing Range, and flows almost due east through a prosperous district, rapidly becoming settled. The valley through which it flows is densely wooded, and the agricultural land on both sides of the river is unsurpassed for fertility. The Manning has a length of 100 miles, and, like most of the rivers of the seaboard, its course lies through undulating country, broken in the upper portion, but widening out as it nears the sea. Its chief tributary is the Barrington, on the right bank; on the left it receives the Barnard River, the Dawson, the Lansdowne, and other small streams. The river is navigable for ocean-going vessels as far as Wingham, about 20 miles from its mouth.

Before reaching the Hunter, several small streams are met with, amongst which may be mentioned the Woliomba and Maclean, falling into Wallis Lake, the Myall, which empties into Myall Lake, and the Karuah, which reaches the ocean at Port Stephens.

The Hunter.

The Hunter is one of the chief rivers of the Colony, and has its source in the Liverpool Range. It flows first in a southerly direction until its confluence with the Goulburn, thence it takes an easterly course, and reaches the sea at Port Hunter, on the shores of which is situated the City of Newcastle. The Hunter receives numerous tributaries. The chief of these, in addition to the Goulburn, already mentioned, are the Wollombi, the Paterson, and the Williams. With its tributaries, the Hunter drains a country extending over 11,000 square miles, an area more than twice as large as the basin of the Thames. The river is navigable for ocean-going vessels as far as Morpeth, 34 miles from the sea, whilst the Paterson and the Williams are both navigable, the one for a distance of 18 miles, and the other for 20 miles. The upper courses of the main river and its branches are through hilly, if not mountainous, districts, but its lower course is mainly through rich, sandy, alluvial flats. Through its lower course the river drains the largest and most important coal-field of Australia, whose emporium is Newcastle, the second city of the Colony in shipping and commerce. The length of the Hunter is over 200 miles.

The Hawkesbury.

Though less important from a commercial point of view than the Hunter, the Hawkesbury, which reaches the sea at Broken Bay, is none the less one of the finest rivers of the eastern seaboard. It is formed by the united waters of many streams, each of considerable local importance. Its chief tributaries come from the table-land or gorges of the Blue Mountains, but the principal branch of the river itself rises in the main range, further south. The range forming the watershed between the Hawkesbury and the streams flowing eastward leaves the main range near Lake Bathurst, runs north-easterly, and terminates at the sea near Coalcliff.

Wollondilly.

Under the name of the Wollondilly, the Hawkesbury has its source not many miles from Goulburn. Flowing past that town it proceeds in a northerly direction until it receives the waters of the Cox River, which come from the Blue Mountains, after passing through wild gorges, wherein may be found some of the most magnificent scenery in Australia. From the junction of the Cox

River the stream is known as the Warragamba, which name it retains until its junction with the Nepean. This river rises in the coast range overlooking Wollongong, and together with its tributary streams, the Cataract and Cordeaux, forms the source of the water-works from which Sydney now draws its supply. Though smaller than the Warragamba, the Nepean gives its name to the united waters of the two streams. After receiving the Nepean the river flows along the foot of the Blue Mountains, through a rich valley highly cultivated. From the Blue Mountains two streams add their waters to it, the Grose and the Colo, and from the junction of the last named the river is called the Hawkesbury. From the Colo junction the river still runs northward until it is joined by the Macdonald, an important stream, navigable for some distance above its confluence with the Hawkesbury. The Macdonald comes from the north, and joins the river on the left bank. The Hawkesbury, after turning to the east, holds its course through broken country, the scenery of which has been pronounced equal to any other river scenery in the world, and finally reaches the sea at Broken Bay. The course of the Hawkesbury extends over 330 miles, and the drainage area may be set down as 8,000 square miles. Navigation is possible as far as Windsor, 70 miles from the mouth, and a little dredging would enable sea-going vessels to reach this town.

The Hawkesbury.

In the neighbourhood of Sydney some small streams fall into Botany Bay. Two of these, the Woronora and George's Rivers, have their sources on the eastern slope of the ranges, in which the Nepean, Cordeaux, and Cataract rise, and after rapid courses unite their waters before falling into the bay.

Rivers south of Sydney.

Generally speaking, the rivers south of Sydney are of less importance than those to the north, as the width of the coastal strip narrows considerably. The Shoalhaven, nevertheless, merits more than passing notice. It rises in the coastal range and follows the direction of the coast, flowing northerly through deep gullies, marked by magnificent scenery peculiarly Australian. Turning sharply to the east, it enters the alluvial plains, which are counted amongst the richest and most productive in the country. The Shoalhaven is 260 miles in length, but is navigable only for a few miles, and drains a district 3,300 miles in area. Further south, in the narrow belt between the ranges and the sea, flow the Clyde, Moruya, Tuross, and Bega Rivers. They all pass through rich, undulating, agricultural country, and each has an average length of from 60 to 70 miles. The Towamba River, at the extreme south of the Colony, empties itself into the Pacific at Twofold Bay.

Eastern rivers.

The physical aspect of all the eastern rivers is much the same, their upper courses being amidst broken and mountainous districts, and their lower waters flowing through undulating country with rich alluvial flats along their banks, for the most part highly cultivated. Where not cultivated, the country is densely covered with timber, some of which attains a magnificent growth, yielding the finest hardwood, and, in the north, cedar and pine.

The Snowy River.

Though belonging to another river system, the upper basin of the Snowy River is situated in New South Wales. This river receives the snow-fed streams rising on the southern slopes of the Monaro Range; its principal tributaries being the Bombala and the Eucumbene. The Snowy River and its tributaries water a considerable portion of the highest table-land of the Colony, between the mountain ranges of which are found large tracts of arable land, where the produce of colder climes may be grown to perfection. After leaving New South Wales, the Snowy has a rapid and tortuous course, and finally enters the sea between Cape Howe and Bass Straits, in the Colony of Victoria. The area of watershed in New South Wales is about 2,800 square miles.

HARBOURS AND PORTS.

Natural harbours.

With a coast so extensive as that of New South Wales, it would be natural to expect many harbours and bays affording outlets for the produce of the country. Such is the case. Besides harbours of commercial importance, there are others, which afford shelter for vessels in stress of weather, and a refuge in time of danger. Fortunately, however, harbours of refuge are not often required. The coast of the Colony is singularly free from cyclones, hurricanes, and like visitations. Gales are certainly not unknown, nor are disasters infrequently recorded; but the coast is very safe, and disasters are in many cases to be attributed to causes which ordinary prudence would have avoided.

Byron Bay.

Inside Cape Byron, in the north of the Colony, the bay of the same name offers shelter to vessels trading to Queensland, in all but north-east weather. A large pier is being constructed, by which the produce of the neighbouring districts of the Brunswick and Tweed may be shipped, when an entrance to these rivers is impracticable. It is also proposed to construct a breakwater, to effectually shelter the bay in all weathers.

Shoal Bay.

At Shoal Bay, the entrance to the Clarence, the anchorage is safe and commodious, and when the works now in progress for improving the river entrance are completed, it promises to be one of the best ports on the coast.

Trial Bay.

Trial Bay, at the mouth of the Macleay, affords ample shelter and safe anchorage. The Government have erected a large prison on the hill overlooking the Bay, and it is proposed to utilize the prisoners' labour in constructing a breakwater, with the view of making Trial Bay not only a harbour of refuge, but a shipping port. When this design is accomplished, there is every reason to suppose that it will become one of the most frequented places on the coast, as the resources of the Macleay District are large and rapidly developing.

Port Macquarie.
Port Stephens.

Port Macquarie, at the mouth of the Hastings, and the harbour at Forster, near Cape Hawke, afford good anchorage. Port Stephens, a little further south, offers at all times the most safe and commodious harbour desirable. As a natural port it is hardly inferior to Port Jackson, and the scenery of its shores is very beautiful. At present, Port Stephens is little used, owing to its proximity to Newcastle, and the sparseness of the population in its immediate district.

Port Hunter.

Twenty miles further south is Port Hunter, at the mouth of the river of that name. When first used, the harbour was inconvenient and somewhat dangerous; but this has been altered entirely by the breakwaters and training walls which have been constructed. Newcastle harbour is now safe and roomy, with shipping facilities equal, if not superior, to those found in any other Australian port. Magnificent wharves line its shores, provided with hydraulic and steam cranes of the most modern type. The length of wharf frontage at Newcastle is eight miles, the trade is large and increasing, and the city ranks third amongst Australasian seaports. The importance of Newcastle is mainly due to the existence of immense coal deposits in its neighbourhood, which supply not only all the Australian Colonies, but the China seas, South America, and the Pacific slopes of the United States. Latterly, too, large shipments of wool have been made direct to English ports, Newcastle being the terminus of the railway tapping the northern districts of the Colony.

Lake Macquarie.

A few miles further south is Lake Macquarie, in the centre of the coal-field of the Newcastle district, and covering an area of 44 square miles. The great drawback to the lake as a shipping port has been the shallowness of its entrance; but extensive dykes and training walls are being constructed, which have already increased the draught of water in the channel, and with some further improvements Lake Macquarie will become an important shipping place.

Broken Bay.

Broken Bay, 30 miles north of Port Jackson, forms the mouth of the River Hawkesbury. It has a bold entrance, and on Barranjoey, the southern headland, is erected a fine lighthouse. The bay has three branches, Brisbane Water being the northern, the Hawkesbury mouth the centre, and Pittwater the southern arm. The first-named opens out into a series of lakes, and the town of Gosford, standing at the head of one of them—the Broadwater—is the centre of an extensive shipbuilding district. The scenery at and around Broken Bay is characteristically Australian, and in natural beauty rivals even Sydney Harbour. South of Broken Bay the coast-line is a succession of high cliffs and sandy beaches.

Port Jackson.

The entrance of Port Jackson lies between perpendicular cliffs of sandstone several hundred feet high, and only 74 chains, or nearly 1 mile, apart. Sydney Harbour has been too often described to require further description here. It holds the first place amongst the harbours of the world for convenience of entrance, depth of water, and natural shipping facilities. Its natural beauties are the charm of all who visit its shores, and in the quiet waters of its numerous bays and coves the navies of the world might securely rest. The area of water surface of the harbour proper is 15 square miles, and the shore-line is 165 miles in circuit. At the South Head is erected a splendid light-house, fitted with an electric arc light, the power ot which is scarcely exceeded on any coast. On the shores of Port Jackson stands Sydney, the metropolis of New South Wales and the mother city of the Australias. The city and its suburbs occupy 100 square miles, and have within their boundaries about 350,000 people.

Botany Bay.

Botany Bay, the first port entered by Captain Cook, the discoverer of this territory, lies a few miles south of Sydney. It covers an area of 24 square miles, and receives the waters of several small rivers. The bay has very little trade, by reason of its proximity to Sydney, but it is frequented by craft in search of shelter during stress of weather.

Wollongong, Kiama, and Ulladulla are small harbours which have been snatched, as it were, from the sea, and are important shipping places.

Jervis Bay.

About 80 miles to the south of Sydney the coast is broken by an important inlet called Jervis Bay. Its entrance is 2 miles wide, and on its bosom safe anchorage may be found in any part. It is surrounded by rich agricultural and mineral country, as yet, unexploited. Nature has been so bountiful to the country as a whole, that particular districts, undoubtedly rich, must remain for a while undeveloped, through want of labour and capital to open them up, and ports which would in older countries be prized for their convenience and capacity, here remain unused, save as refuges in stormy weather.

Bateman's Bay, at the entrance to the Clyde, is an inlet of some importance, and coastal steamers also load produce at the mouth of the Moruya, Tuross, and Bega Rivers.

Twofold Bay.

Twofold Bay is a magnificent sheet of water, near the southern limit of the Colony. Formerly it was the seat of a large whaling trade, now no more. It is well sheltered, and a fine jetty affords ample shipping facilities. Its trade is chiefly with the neighbouring colonies, in produce and live stock, the bay being the nearest outlet on the sea coast for the rich district of Monaro. A railway is planned to connect the port with the table-land and the metropolis, and Twofold Bay promises to become a considerable shipping place in the near future. On its shores is situated the town of Eden.

Coastal Lakes.

Besides the ports and harbours, properly so called, which have been above enumerated, there are several lakes, or arms of the sea, which will, with the development of the resources of the country, become ports of shipment. From Cape Hawke to Port Stephens a chain of lakes extends, communicating with the latter through the Myall River, and covering a large area. The most extensive are Wallis Lake, Myall Lake, and the Broadwater. The country round about is richly timbered, but its resources are still undeveloped. Between Lake Macquarie and Broken Bay is Tuggerah Lake, also an extensive sheet of water. Near Wollongong is Lake Illawarra, of considerable area, but shallow, and towards the south of the colony are Coila and Tuross Lakes, into which the Tuross River discharges.

ISLANDS.

Islands.

No islands of any note belong geographically to New South Wales. The Broughton Islands, lying a few miles northward of the Heads of Port Stephens, are the largest in extent. Solitary Island, situated near the northern part of the coast, between the Bellinger and Clarence Rivers, and Montague Island, 18 miles south-east of the Moruya River estuary, have been selected as the sites for light-houses, but are not otherwise important. Norfolk Island, having an area of 8,607 acres, and also Lord Howe Island, belong politically, but not geographically, to New South Wales. The last-named island has an area of 3,220 acres.

Norfolk Island.

WESTERN WATERSHED.

The Western Watershed.

The western watershed of the Colony is in physical features and geographical character the antithesis of the eastern. Instead of a narrow strip of country shut in by the sea and mountains, intersected by numerous short rivers with a rapid flow, the western watershed forms a vast basin through which the quiet waters of a few great rivers have their long, though uncertain, courses. The rivers of the western region of the Colony all belong to the fluvial system of the Murray, which carries to the Southern Ocean, through the colony of South Australia, the drainage of a watershed immense in extent, embracing the northern portion of Victoria, and the western and larger part of New South Wales, and extending almost to the centre of Queensland.

The Murray.

The Murray, or Hume, the southern branch of this vast river system, rises in the Snowy Mountains, from which its three principal sources, the Hume, the Tooma, and the Indi descend. The first two of these streams rise on the northern and western slopes of Mount Kosciusko; the Indi, which is really the main river, has a longer course, rising in a gully near the Pilot Mountain, at an elevation of 5,000 feet above the sea. From the confluence of these rivers, the Murray rapidly descends towards the plains below Albury, where it is only 490 feet above sea level, and has still a course of 1,439 miles to run. From Albury downwards the river receives many tributaries on both banks, those from New South Wales being the most important. Above Albury the tributaries are for the most part mountain torrents, carrying to the main stream the melted snows of the Australian Alps. In its lower course, however, the Murray is augmented, through the Murrumbidgee and Darling, by the waters of secondary systems as important as its own.

Ana-branches.

Before being joined by the Murrumbidgee, the Murray receives, from a series of ana-branches, the drainage of a large portion of the country lying between the two main streams. The Billabung Creek runs almost through the centre of the plain spreading between the Murray and Murrumbidgee; in the middle of its course it communicates with the latter river, through Colombo and Yanko Creeks, whilst on the south it feeds the Murray by the channel of the Edward River. The Edward is itself an important stream. It forms with the Wakool and Tuppal Creeks, and many other smaller and less important watercourses, a fluvial system, interlacing the whole country from Tocumwal to the Murrumbidgee junction, which has been justly named Riverina. The Edward and Wakool are together navigable for over 400 miles, as far as the important town of Deniliquin. From its furthest source at the foot of the Pilot Mountain to the town of Albury the Murray has a length of 280 miles. Thence to the Darling River junction its course is 852 miles, and from that point to the sea, below Lake Alexandrina, it is 587 miles in length. The river has thus a total course of 1,719 miles, of which 1,120 are within the colony of New South Wales. The river has been navigated as far as the Ournie gold-field, about 150 miles above Albury, and 1,590 miles from its mouth.

The Murrumbidgee.

The Murrumbidgee has its source at the foot of a hill overlooking the Coolaman Plains, at a height of nearly 5,000 feet above the sea. Its course first shapes itself southward, but near the town of Cooma it takes a sharp curve and runs in a northerly direction until it nears Yass. Here it curves again, trending to the west in a line parallel to the Murray, but turning south-west on receiving the Lachlan, it finally joins the main river after a course of 1,350 miles. The area drained by the Murrumbidgee is estimated at 15,400 square miles. In the upper part of its course it receives from both sides numerous rivers and creeks, the most important of which are the Umaralla, Molonglo, and Yass Rivers on its right, and the Coodrabigbee, and Tumut Rivers on its left bank. All these rivers flow through mountainous country over a series of plateaux, which from the Coolaman and Coorangorambula Plains to the plains round Gundagai and Wagga successively diminish in height from 5,000 feet to 720 feet and 607 feet above the sea.

The upper valleys, both of the Murrumbidgee and the Murray, are of similar physical aspect. Both rivers are snow-fed, the Murray to a greater extent than its tributaries, owing to the higher elevation of the mountains and plateaux from which it descends. In the lower basins they are also similar in character, and the plains which they drain are amongst the most fertile in the Colony. With an intelligent system of water conservation and irrigation the lower valleys of these rivers would support a large population of agriculturists on land hitherto devoted entirely to sheep pasturing.

The chief tributary of the Murrumbidgee is the Lachlan, rising in the main Dividing Range, where also its principal feeders have their source. These are the Boorowa, Crookwell, Abercrombie, and Belubula, all rapid streams, occasionally swollen by melting snow from the table-land. After receiving the Boorowa the Lachlan flows to the Murrumbidgee, through 500 miles of plain country, without receiving any tributary of permanent character. The water-courses which carry off the surplus water from the rich plains on either side of the river, only reach it in time of flood. The total length of the river is 700 miles, and its basin has an area of 13,500 square miles. The country drained by the Lachlan is similar in most respects to that of the Murray and Murrumbidgee, and with regular rainfall or irrigation, the light red soil and sandy loam of its lower valley would yield abundant returns to the farmer. The lines of demarcation between the Lachlan basin and that of the Murrumbidgee on the south, and the Darling on the north-west, are hardly perceptible on the ground, so flat is the country through which these great rivers flow.

The Darling.

Of all the tributaries of the Murray, the Darling drains the largest area, extending as it does over the greater portion of the western district of New South Wales, and embracing nearly all Southern Queensland. From its confluence with the Murray at Wentworth up to its junction with the Culgoa a few miles above Bourke, the Darling receives only two tributaries, the Paroo and the Warrego, both intermittent, though of vast size in times of flood. For over 1,000 miles this great river holds its solitary course, Nile-like, feeding the thirsty plains of the south with water falling many hundred miles distant on the downs of Queensland. The course of the river is tortuous in the extreme; in many places a narrow neck of land, a mile or two across, separates parts of the river 20 miles distant, if the stream were followed. The Darling presents the phenomenon, not uncommon in Australian rivers, of banks much higher than the plain behind, indeed the river bed itself, though from 30 to 40 feet beneath the bank, is in some places but little below the general level of the country. Successive floods have added to the height of the banks, and have raised the bed of the stream correspondingly.

The Upper Darling.

The Darling has no source under that name, which applies only to that part of the river as far as the Bogan junction. Above this point it takes the name of the Barwon, until its confluence with the Gwydir, then it is known as the Macintyre, and afterwards the main branch receives the name of the Dumaresq. The last-named stream has its source in the Dividing Range, on the summit of the table-land at the extreme north-east of the Colony, not far from the head of the Richmond. The Dumaresq, Macintyre, and Barwon form, however, what might be really called the Upper

Darling, and this appellation would be geographically accurate. The variety of names, by which not only the Darling, but many other Australian rivers are known, is due to the fact that they were discovered in sections, the identity of which were not established until years afterwards, and the sectional names have survived.

Tributaries of the Darling.

The Darling receives, in its upper course, many tributaries, which drain the southern portion of Queensland, but these rivers only flow for a short part of their courses in New South Wales. Chief among them are the Mooni, Narran, Bokhara, Culgoa, Warrego, and Paroo. The principal affluents of the Darling within the boundaries of New South Wales are on the left bank. The Gwydir, Namoi, Castlereagh, Macquarie, and Bogan are the most important. These streams are all of considerable length and similar in character, their upper valleys are on the table-lands, and their lower courses lie through alluvial plains and good pastoral country. The Darling is navigable, in times of freshets, as far as the township of Walgett, 1,758 miles from its confluence with the Murray, thence to the sea the distance is 587 miles, making a total length of navigable water from Walgett to the sea of 2,345 miles, and it therefore ranks high amongst the rivers of the world, as estimated by navigable length. Unfortunately, however, its upper course is open only during part of the year.

Length of navigable water.

If the fluvial system of the Murray and Darling, and their principal tributaries, be considered in the light of the facilities it affords for water carriage, its value will appear not inconsiderable. The Darling River may be made available for navigation for 1,758 miles, from Wentworth to Walgett, the Murrumbidgee and Lachlan combined have 900 miles, and the Murray, from Ournie gold-field to the point where it enters the territory of South Australia, has a length of 1,120 miles. If to this be added the navigable length of the Wakool and Edward, the total distance of river which could be navigated reaches nearly 4,200 miles, in the western district alone, a length more than twice that of the railways of the Colony.

LAKES OF THE WESTERN DISTRICT.

Western Lakes.

Here and there along the course of the western rivers are found lakes sometimes of considerable dimensions. These lakes are in reality shallow depressions, receiving water from the overflow of the rivers in times of flood, and in return feeding them when the floods have subsided. Lake Urana is the most important in the Murray and Murrumbidgee basin, and Lakes Cowall, Cudgellico, and Waljeers, in that of the Lachlan. Along the Darling are Lakes Poopelloe and Gunyulka on the left bank and Laidley's Ponds and Lakes Pammaroo, Jandoo, and Cawndilla on the right, near Menindie. On the South Australian frontier are Lake Victoria, formed by the overflow of the Murray, and others of less importance. The area of these lakes is undefined, as they vary in size according to the rainfall, sometimes covering vast extents of country, and at others being reduced to the proportions of mere waterholes, whilst in seasons of great drought they are absolutely dry.

PART IV.

Climate.

IT is accepted as an ascertained fact that the temperature of lands in the southern hemisphere is lower than that of countries situated in corresponding latitudes north of the equator; to this general law New South Wales is no exception. The researches of the Government Astronomer of the Colony conclusively confirm this, and show, from the records of temperature extending over many years, that the climate of New South Wales is one of the most temperate and uniform anywhere experienced. Just as the country is divided naturally into three distinct geographical regions, so it is separated into the same climatic divisions, each of which has its characteristic features.

Coastal Region.

The coastal region extends from 28° to 37° south latitude, and if the temperature accorded with that of similar latitudes in the northern hemisphere, Casino and Grafton would resemble the country bordering on the Gulf of Suez, in the Red Sea; Delhi, in India; Ningpo, in China, and New Orleans, in the United States. Such, however, is not the case. Casino has a mean temperature of 67°, only 1° more than that of Messina, in Sicily, which lies more than 9° further from the equator. Eden, which is situated at the extreme south of the Colony, in latitude 37°, has a mean temperature of 60°, which is practically the same as that of Nice and Rome, places respectively 460 and 330 miles further removed from the equator. Not only is the climate of the coastal region more mild in regard to average temperature than the corresponding latitudes in the northern hemisphere, but the range is not as great. This is a very important factor in estimating the healthiness of a country.

As regards Sydney, situated as it is midway between the extreme points of the Colony, in latitude 33° 51′ south, the same truth is apparent. Its mean temperature is 62·5°, and corresponds with that of Barcelona, the great maritime city of Spain, and of Toulon in France, the former being in latitude 44° 22′, and the latter 43° 7′ N. At Sydney, the mean summer temperature is slightly over 71°, and that of winter 54°. The range is thus 17° Fahrenheit. At Naples, where the mean temperature for the year is about the same as at Sydney, the summer temperature reaches a mean of 74·5°, and the mean of winter is 47·5°, with a range of 27°. Thus the summer is warmer, and the winter much colder, than at Sydney. The greatest temperature in the shade ever experienced in Sydney was 106·9°, the lowest winter was 36·8°, giving a range of 70°. At Naples the range has been as great as 81°, the winter minimum falling sometimes below the freezing point.

Temperature of Sydney.

Taking the coast generally, the difference between the mean summer and mean winter temperature may be set down as averaging not more than 24°, a range so small that it will be rarely found elsewhere. The famed resorts on the Mediterranean seaboard bear no comparison with the Pacific slope of New South Wales, either for natural salubrity, or the comparative mildness of the summer and winter, while the epidemics and pestilences which have devastated those regions of ancient civilization have never made their appearance on these shores.

Climate of the Coast.

Passing from the coast to the table-land, a distinct climatic region is entered. On the high southern plateau, at an elevation of 4,640 feet, stands the town of Kiandra, having a mean summer temperature of 54·5°, and a winter temperature of 33°, corresponding with that of Dumfermline, in Scotland, in latitude 56° 5′ N., while Kiandra is in 35° 50′ S. Cooma, in the centre of the Monaro plains, at an elevation of 2,640 feet above sea-level, enjoys a summer as mild as either London or Paris, while its winters are far less severe. On the New England table-land, the climate of Armidale, and other towns, may be considered as nearly perfect as can be found. The yearly average temperature is scarcely 57° while the summer only reaches 69°, and the winter falls to 46°, a range of temperature approximating closely to the famous health resorts in the south of France.

Climate of table-land.

estern istricts.

The climatic conditions of the western districts of the Colony are entirely different from those of the other two regions, and have been often cited as disagreeable. Compared with the equable temperature of the coastal district, or table-land, there may appear some little justification for such reputation, but only by comparison. The climate of the great plains, in spite of the heat of part of the summer, is very healthy, and an inspection of the returns of death-rates, both of children and grown persons, given elsewhere, amply bears out this view. The town of Bourke may be cited as an example. Seated in the midst of the great plain of the interior, it illustrates peculiarly well the defects, as well as excellences, of the climate of the whole region. Bourke has exactly the same latitude as Cairo, yet its summer temperature is 5° and its mean 6·5° less than the Egyptian city. New Orleans also lies on the same parallel, but the American city is 4° hotter in summer. As regards winter temperature, Bourke leaves little to be desired. The mean winter reading of the thermometer is 52·3°, and accompanied as this is by clear skies and an absence of snow, the season is both refreshing and enjoyable. The great heat experienced on occasional days in summer, when the thermometer reads considerably over 100° in the shade, is not accompanied by that moisture in the air which at the sea-coast would make a less degree of heat almost unbearable.

ryness of limate.

It is fortunate for the country that dryness is one of its characteristics; otherwise, instead of being the abode of health, the interior of the Colony would, with abundant rains, have become an impenetrable jungle, the lurking-place of those malarial fevers which devastate so many fair regions of the Old World and America. New South Wales may therefore be compared favourably with any part of the world; and, taking into consideration the comparatively low latitudes in which it is situated, it offers a most remarkable variety of temperate climates. From Kiandra, on the highest part of the great Dividing Range, to Bourke, on the great interior plain, the climate may be compared with that of the

Climate adapted to European race.

region of Europe extending from Edinburgh to Messina, but more generally resembling that of Southern France and Italy. It may therefore be regarded as peculiarly fitted for the habitation of people of European race, embracing, as it does, within its limits, the climatic conditions under which the most advanced races of the world have prospered. The following tables, showing the average meteorological conditions in certain places, fairly represent the whole Colony :—

Temperature, Rainfall, and other Meteorological Conditions of certain Stations in New South Wales.

Town.	South latitude.	Mean temperature.	Mean summer temperature.	Mean winter temperature.	Mean daily range of thermometer in shade.	Highest reading of thermometer in shade.	Lowest reading of thermometer in shade.	Mean annual rainfall.
			Table-land.					
	° ′	°	°	°	°	°	°	in.
Kiandra........	35·52	45·0	54·5	33·1	25·4	96·2	-8·0	61·2
Bombala	36·50	50·8	62·8	41·5	26·6	98·4	20·9	29·6
Cooma	36·12	52·2	64·6	41·6	...	107·5	15·0	18·4
Queanbeyan...	35·20	53·6	67·2	41·9	16·7	109·0	20·0	23·7
Mt. Victoria..	33·36	54·2	65·4	42·3	20·1	105·1	21·8	34·8
Orange	33·18	55·2	67·7	42·3	16·9	99·5	22·2	41·1
Goulburn	34·45	55·3	68·3	44·8	25·8	109·0	18·0	26·3
Moss Vale	34·32	55·3	66·9	43·6	15·9	103·7	26·8	49·1
Armidale.......	30·34	56·9	69·0	45·9	24·8	100·0	11·2	35·8
Bathurst	33·24	57·2	70·8	45·0	30·3	112·5	3·0	25·0
Tenterfield	29·50	57·5	67·3	46·4	22·3	104·0	16·0	30·8
Inverell	29·48	59·5	73·2	46·1	23·9	105·0	20·0	30·8
Mudgee	32·35	59·8	74·8	47·9	19·4	114·0	26·0	28·0
Forbes	33·27	60·8	74·7	48·7	21·0	110·0	24·0	20·7
Cassilis	32·00	61·0	74·7	47·4	25·6	112·2	22·2	25·6
			Coastal District.					
Eden	37·00	60·3	67·7	51·1	13·9	106·0	36·0	45·1
Wollongong...	34·25	62·1	70·0	53·6	14·9	101·0	36·7	38·3
Sydney...	33·51	62·5	71·1	54·1	14·3	106·9	36·8	50·1
Maitland.......	32·47	62·5	73·1	51·4	21·5	112·0	24·0	34·8
Port Macquarie..	31·25	63·7	72·4	55·8	15·7	101·3	34·0	63·3
Windsor	33·36	63·8	72·3	52·6	26·1	113·9	21·5	34·3
Newcastle	32·55	63·9	71·9	54·7	17·9	120·0	31·3	50·0
Grafton.........	29·43	68·3	75·6	56·3	27·8	118·0	21·0	38·1
			Western District.					
Deniliquin	35·32	59·9	73·2	48·5	30·6	121·0	16·0	16·4
Wagga Wagga	35·80	60·2	74·4	46·7	19·7	111·0	20·0	26·0
Dubbo	32·18	60·6	73·3	48·0	25·1	112·9	17·0	19·7
Wentworth ...	34·80	64·4	77·8	52·1	23·3	119·0	27·2	13·5
Bourke	30·30	65·8	80·3	52·3	20·9	120·0	30·0	18·0

Average Meteorological Conditions of Sydney for Each Month.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Mean.
Average reading of barometer at 32° Fahrenheit and mean sea-level	29·919	29·954	30·048	30·048	30·080	30·078	30·091	30·086	30·033	29·998	29·963	29·889	30·016
Mean temperature................	71·1	70·6	68·9	64·6	58·0	54·3	51·9	54·0	58·1	63·2	66·1	69·4	62·7
Average reading of maximum thermometer.	78·1	77·0	75·4	71·3	65·2	61·2	59·3	62·3	66·5	71·6	74·1	77·1	70·0
Average reading of minimum thermometer.	64·2	64·2	62·6	58·0	52·2	48·8	45·1	46·8	50·5	55·5	58·6	62·2	55·5
Mean temperature of sea water....	71·1	71·6	70·8	68·5	64·7	60·4	57·7	57·5	60·0	63·3	66·7	69·3	65·1
Greatest monthly rainfall	10·68	18·56	18·70	25·43	12·55	14·25	11·95	12·77	10·90	24·69	11·13	7·80	Max. 25·43
Least monthly rainfall............	0·57	0·53	0·85	0·06	0·18	0.27	0·06	0·29	0·12	0·07	0·14	0·39	Min. 0·06
Average monthly rainfall..........	4·03	5·30	4·94	6·70	5·05	5·28	4·28	2·92	2·56	3·44	3·11	2·77	50·05
Average number of days' rain......	13	14	15	14	13	13	12	11	11	13	12	11	152
Average monthly evaporation	6·39	4·69	4·21	2·69	1·84	1·54	1·84	2·66	3·93	5·65	6·55	7·37	48·37
Average monthly ozone............	4·5	4·60	49	5·1	4·7	5·6	5·2	5·0	5·4	5·4	5·1	4·7	5·04

PART V.

Geological Formation.

Classification of rocks.

THE geology of the Colony has been ably treated by various learned scientists, and this work is being continually added to by Mr. W. C. Wilkinson, the present eminent Government Geologist. To the Rev. W. B. Clarke we are indebted for the first systematic classification of the various sedimentary formations found in New South Wales. These were classified by him as follows :—

Palæozic :	Silurian	
	Devonian	
	Carboniferous	
	Permian.	
Mesozoic :	Triassic	
	Jurassic	
	Cretaceous.	
Cainozoic :	Tertiary	Miocene
		Pliocene
	Post Tertiary	Post Pliocene
		Recent.

Palæozoic formation.

Palæozoic.—This formation extends throughout almost the whole eastern portion of the Colony, the rocks of the upper Silurian age principally occurring on the western watershed of the main Dividing Range, in the country where the Murrumbidgee, Lachlan, and Abercrombie Rivers rise. They appear on the eastern watershed, along part of the coast near Bateman's Bay, and, striking inland, are found in the basin of the Clyde, and the upper valley of the Shoalhaven.

The upper Silurian rocks extend as far north as Mudgee, where they are overlaid by the Carboniferous strata of the Hunter Valley, and by the belt of volcanic rocks extending along the Liverpool Range. They reappear further north, in the upper valley of the Macleay River, on the east slope, and in the basin of the Namoi, on the west of the Dividing Range. The Silurian rocks consist of sandstone, slate, and limestone, and exhibit evidence of metamorphism, particularly in the country around Bathurst and Hill End.

Limestone.

Limestone beds, of enormous extent, are scattered throughout this formation. These are chiefly composed of crinoids and corals which outcrop prominently in the Wellington District, near Molong and Gulgong, at Tuena, and also in the Murrumbidgee District. In the limestone formations are found magnificent caves, such as the Wellington, Wiambene, and Fish River, or Jenolan Caves, the fame of which has spread even beyond the confines of Australia. Rocks of the Devonian age also exist near Rydal, where Mr. C. S. Wilkinson has measured a section of strata, showing a thickness of not less than 10,000 feet.

Carboniferous Deposits.

The carboniferous formations occupy the whole valley of the Hunter, and of its chief tributary, the Goulburn, on the east slope of the main range. They are also found on the opposite slope, in the upper valley of the Castlereagh, and along the edge of the great tertiary depression which the Upper Darling drains. They appear also on the south coast, at Bulli and Coal Cliff, extending southwards to Bateman's Bay, and embracing the basins of the small rivers between the Clyde and the Shoalhaven, as well as the lower valley of the last-named river. Cut off by the high coast range, the formation reappears at Marulan and Berrima, again in the valley of the Cox River, at Lithgow Valley, and at Capertree River, thus forming a distinct connection with the great series of the Hunter.

The lower coal measures are included in the upper carboniferous series, and contain many seams of workable coal, some of remarkable thickness. These are situated principally in the lower valley of the Hunter River, comprising amongst others the Greta, Anvil Creek, and West Maitland seams. These seams are over-topped and underlaid by conglomerate and sandstones, of great thickness, the strata of this age being estimated by Mr. Wilkinson to be 10,000 feet thick. The seams in the Newcastle coal-fields, as well as those in the Illawarra and coast districts above and below Jervis Bay, belong to the upper coal measures, in which also are included the Berrima and the Lithgow seams. They appear frequently, as in the case of the last named, at a great elevation above the sea, and owing to their almost horizontal strata are worked with great facility. The coal-bearing strata extend as far as the upper valley of the Castlereagh, thence northward, as already mentioned, along the edge of the great tertiary series, to Queensland, in which colony they reappear at a considerable elevation.

Coal seams.

Mesozoic formation.

Mesozoic.—To this period belong the Hawkesbury and Wianamatta series, which overlay the carboniferous formation of that part of the country through which the Hawkesbury and its principal tributaries flow. It is in this formation that the wonderful gorges of the Blue Mountains, and the beautiful harbours of Port Jackson, Port Hacking, and Broken Bay occur. The rocks are of warm yellow sandstone, and the thickness of the strata is estimated at about 1,000 feet.

The Wianamatta series.

The Wianamatta series extend round the metropolis and cover a space in the shape of an irregular triangle, the angular points of which rest at Picton on the south, Richmond on the north, and Sydney on the east. The beds are composed of fine sedimentary deposits of argillaceous shales, and are of comparatively little thickness. They appear to have been deposited in hollows worn by denudation out of the sandstone, on which they directly rest.

To the Mesozoic period belongs also the basin of the Clarence River, the strata of which consist of sandstone, shales, and conglomerates, intersected by occasional coal seams. The extent of the series, distinctively known as the Clarence, is considerable, stretching as it does along the coast from the Tweed to Red Head, and inland some 50 miles.

Cretaceous formations.

The Cretaceous formations occupy the north-western part of the Colony, extending from the Darling westward, towards the north-west corner. Water-bearing strata have been reached at depths varying from 300 feet to 600 feet, and large quantities of water have been obtained. The existence of subterranean water throughout this extensive region has been practically demonstrated, and it remains for the settlers to avail themselves of the stores with which nature has charged her reservoirs in the ages that have long since been counted out.

Artesian water.

Of late years the Department of Mines has had at work in different parts of the Colony a number of diamond and other kinds of drills, and water augers. Bores have been put down, wells sunk, and artesian supplies obtained in the cretaceous formations of the counties of Killara, Landsborough, and Barrona. One of these wells, sunk to the depth of 144 feet, furnishes daily a supply of 60,000 gallons, and another, only 49 feet in depth, throws up 20,000 gallons per day of excellent fresh water. Several valuable supplies of subterranean water have also been obtained recently in other parts of Australia, the most important discovery during the past year being the famous artesian well at Barcaldine, in Queensland, one of the most arid districts on the continent, which yields daily the enormous quantity of 576,000 gallons of potable water. This is the largest spring ever tapped in Australia, and there is every probability that further testing of the corresponding cretaceous formations, which extend to New South Wales, will disclose new underground supplies of very great, if not equal, capacity. The effects of such discoveries upon the prosperity of the interior, which has hitherto been checked principally by its uncertain water supplies, cannot well be estimated. The water in the case of the Barcaldine Spring was obtained at a depth of 690 feet, and, compared with the magnificent result, at the insignificant cost of £775.

Cainozoic formation.

Cainozoic.—To this formation belongs the greater portion of the central and western districts of the Colony. It therefore embraces the valleys of the great western rivers, and their chief tributaries. The formation is, however, intersected by a broad belt, chiefly of Silurian rocks, extending across its centre, from the Bogan River towards the Great Barrier Range, on the further side of the Darling. Large patches of Devonian formation are also met with in the same region. Making these deductions, the tertiary formation covers more than one third of the whole Colony. The vast alluvial plains were formed during the Pliocene and Post Pliocene periods. The alluvial deposits are of variable thickness, sometimes shallow, but in the great plains, between the main rivers which intersect the country, the deposits are of very great depth.

IGNEOUS AND METAMORPHIC FORMATION.

Granite formation.

The area occupied by this formation comprises one-eighth of the Colony—the principal rocks belonging to the series consisting of varieties of granite, porphyry, diorite, and serpentine. The granite formation occurs for the most part in the northern and southern masses of the great dividing chains, but is found out-cropping throughout the Silurian deposits, which cover so large a part of the centre of the Colony. Diorite and basalt occur principally in the country between the Macleay and Manning Rivers, and on both slopes of the Liverpool Range, between the upper waters of the Namoi and Macleay, and divide the upper Silurian and Carboniferous deposits of the eastern and western watersheds. Serpentine is found scattered in different parts of the Colony, chiefly at Gundagai, Bingera, Lucknow, and Port Macquarie. The granites, porphyries, and diorite rocks have been recognised as belonging to the Palæozoic age, whilst the volcanic rocks, basalts, and others, are contemporaneous with the tertiary series.

PART VI.

Mines and Minerals.

THE progress of the Colony during the first sixty years of its history, viewed in the light of later events, seems painfully slow, and somewhat uncertain. Yet its enterprising colonists must have been conscious of the vast heritage destined to become the fortune of Australia, for on no other supposition can their sacrifices and exertions be understood. To the nations of the old world this was practically an unknown land, and it was not till the story of the gold discoveries was noised abroad that the importance and possible future of Australia were in any way realised.

Gold-mining.

Gold-mining was but for a brief period the leading industry of these colonies, even in the wonderful years which succeeded the memorable discovery of Hargraves. Now, amongst the minerals obtained in New South Wales, it yields in value to coal, silver, copper, and tin; whilst compared with that of pastoral and agricultural produce the value of gold procured is inconsiderable. The discovery of gold, nevertheless, made Australia a nation, for the current of immigration which set towards Australia on the presence of the precious metal becoming known has never ceased. Thousands of men in the prime of life, attracted to these shores by the hope of fortune easily acquired on the fields of the Turon and Bendigo, seeing patient industry everywhere rewarded, re-

Immigration due to gold discovery.

mained to share the general prosperity, and those who came to dig for gold readily turned their attention to their former, but less exciting, pursuits.

New South Wales less affected by gold discovery than Victoria.

The settlement of New South Wales has not been affected by the gold discovery to the same extent as Victoria, yet the number of persons engaged in actual search for the precious metal was at one time considerable. This number has gradually decreased, as the fields have been despoiled of the treasures contained in their easily worked alluvial deposits. The abandonment of a gold-field is not, however, always a loss to the country. After the excitement has died out, the digger makes room for the agriculturist, and resources of a more permanent character are developed, in parts of the Colony, which, but for the former, would have been unknown, and, but for the agriculturist, would have remained a wilderness.

Modern system of gold-mining.

Gold-mining now requires the expenditure of capital, for the erection of plant and gold-saving machinery; and the miner, whose stock-in-trade of gold-digging appliances consisted solely of a pick, a shovel, and a tin dish, has had, in the great majority of instances, to seek other fields of labour, which he has found in the variety of resources with which nature has endowed this rich territory. Some have sought the cities, and others the fields, returning gradually to their earlier occupation as artizans or agriculturists. Not a few, however, remained true to their miners' instincts, and have since assisted in developing other branches of the mining industry. In the early days the miner was left entirely to his own resources; but scientists have now come to his aid, and have indicated the localities where in all likehood his researches will be attended with success. Thus the mineral industry in New South Wales is still in a very flourishing state, and maintains a fair proportion of the people of the Colony in employment at remunerative rates. If to the search for metallic ores be added the extraction of coal and shale, it will be found that minerals and metals contribute largely to the wealth of the country, and the employment of its people.

Persons engage in mining.

The following table gives the approximate number of persons actually engaged in the principal departments of mining during each of the past seven years :—

Number of persons engaged in mining.

Persons engaged mining for—	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Gold	9,056	9,215	6,750	6,548	5,911	6,767	6,060
Silver and silver lead	*	*	*	45	929	1,297	1,670
Copper	1,177	1,442	1,913	1,746	1,000	622	508
Tin	4,530	5,066	4,100	2,850	3,395	2,814	1,888
Iron	*	*	*	*	180	120	160
Coal	4,098	4,387	5,481	6,227	7,007	7,847	7,298
Shale	231	317	293	116	324	100	120
Total	19,092	20,427	18,537	17,532	18,836	19,567	18,399

* No estimate made.

The population thus actually engaged in mining during the year 1887 numbered 18,399, making with their families a population of about 90,000, depending directly upon the yield of the mines.

Quantity and value of mineral products of the Colony.

An idea of the vast amount of wealth already derived from the mines of the Colony may be gathered from the summary hereunder, showing the quantity and value of the products of the various minerals since their first discovery to the end of the year 1887 :—

Minerals.	Quantity.	Value.
		£
Gold	9,885,095 oz.	36,863,717
Silver	2,923,038 ,,	612,886
Coal	39,892,862 tons	19,699,109
Shale	481,252 ,,	1,083,174
Tin (ingots)	85,078 ,,	7,104,111
,, (ore and regulus)	16,772 ,,	823,765
Copper (ingots)	79,133 ,,	5,055,142
,, (ore and regulus)	3,761 ,,	108,210
Iron	36,229 ,,	265,465
Antimony (metal)	474 ,,	67,239
,, (ore)	3,222 ,,	
Bismuth	105 ,,	20,576
Silver lead ore (ore)	15,895 ,,	1,193,463
,, (metal)	13,221 ,,	
Asbestos	26 ,,	488
Sundry minerals	....	41,057
Total value	....	£72,938,402

METALLIC MINERALS.

Gold.

Gold.—Amongst the metallic minerals found in the Colony, gold occupies a foremost place, both on account of the quantity which has been, and is now being, raised, and of the influence which its discovery has had on the settlement of the country. The date of the discovery of gold in New South Wales was for a long time the theme of much controversy, and the question as to the original discoverer a long disputed one. It is now agreed, however, that the existence of gold was known to the authorities during the early days, when the Colony was a convict settlement, but for obvious State reasons the matter remained secret. The first authentic record of the discovery of gold is contained in an extract from Assistant Surveyor James McBrian's Field-book, bearing date 16th February, 1823, in which the following note appears:—"At 8 chains 50 links to river, and marked gum-tree—at this place I found numerous particles of gold in the sand and in the hills convenient to the river." The river referred to is the Fish River, at about 15 miles from Bathurst, not far from the spot to which the first gold-rush was made twenty-eight years afterwards.

First mention of gold.

In 1839, Count Strzelecki found gold in the Vale of Clwydd, and communicated the discovery to Governor Gipps, but he was requested to keep the matter secret, lest the knowledge of the existence of gold should imperil the safety and discipline of the settlement. The Rev. W. B. Clarke also found gold in 1841 in the Macquarie Valley and the Vale of Clwydd, and expressed his belief that the precious metal would be found abundantly dispersed throughout the territory.

Actual discovery of payable gold.

But it was not until the year 1851 that payable deposits were proved to exist in New South Wales, and this important discovery was due to Mr. E. Hammond Hargraves, who, on his return some time previously from California, pointed out to the Government the localities in which he had found payable deposits of alluvial gold, viz., at Lewis Ponds and Summer Hill Creek, in the districts of Bathurst and Wellington. Prospecting operations followed in the neighbourhood, with the result of which every one is now familiar. A few weeks later the rich deposits of Ballarat, Mount Alexander, and other gold-fields, were discovered in Victoria; and the world witnessed a gold rush from all parts of the earth to these colonies, similar to that which some years before had taken place to California. The probable effects of the movement were not clearly seen at the time, either here or in the United Kingdom, but it has resulted in the creation of states, whose future is surrounded with the brightest promise.

Alluvial gold.

Native gold is the only true mineral species of gold which has, so far, been found in New South Wales, and was first met with in easily worked alluvial deposits. Alluvial diggings have always attracted the greater number of miners, as the precious metal is dug out without costly appliances. But, however rich they may be, these deposits are very soon worked out, for their area is generally of limited extent. The miners engaged in testing alluvial deposits for gold form a floating population, ready at any moment to migrate from one colony to another. In the alluvial deposits gold is found associated with a variety of minerals; it also occurs in the shape of grains and nuggets, water-worn in appearance, and some of considerable size. Though New South Wales has not yielded nuggets of so extraordinary a size as the neighbouring Colony of Victoria, some very splendid specimens of that gold formation have, nevertheless, been unearthed at various times.

Remarkable nuggets and their value.

Thus, in July, 1851, a mass of gold was found on the Turon River gold-fields which weighed 106 lb., or 1,272 oz. In November, 1858, at Burrandong, near Orange, another nugget was found which, when melted at the Sydney Mint, gave 1,182 oz. 6 dwt. of pure gold, of the value of £4,389 8s. 10d. A third nugget, called the Brennan, was sold in Sydney in 1851 for £1,156. In 1880 and 1882, several nuggets which were unearthed at Temora weighed from 59 to 139 oz., and in 1887, nuggets were found by fossickers in various parts of the country, four of which, weighing respectively 357 oz., 200 oz., 47 oz., and 32 oz., were unearthed at Hargraves; and another, weighing 30 oz., at Limestone Creek. The Jubilee nugget, weighing 347 oz., was also discovered in that year at Maitland Bar.

Further discoveries probable.

Although the alluvial deposits discovered in the early days have been practically abandoned, and are considered as worked out, there is ample evidence that the surface of the country has been merely scratched. The search for gold has been vigorously prosecuted for more than thirty-six years; but new gold-fields and fresh deposits are nevertheless being continually discovered in localities supposed to have been thoroughly examined, and several of the fields recently opened up bid fair to rival in extent and richness the most celebrated diggings of the early days. The gold formation is very widely diffused throughout the Colony, as may be gathered from the fact that the gold-fields of Albert, Delegate, and Ballina are between 600 and 700 miles distant from each other; and it has been estimated that the extent of country covered by formations, in association with which gold always occurs, exceeds 70,000 square miles, whilst the precious metal has also been found in formations where its presence was never suspected. A considerable portion of this area, equal to nearly one-fourth of the whole surface of the Colony, has never been touched by the pick of the miner.

Want of appliances in early days.

It is well-known to the mining public that many mines which gave promise of handsome results were abandoned in the early days, simply because the appliances at hand were not sufficiently powerful or well directed to save the gold contained in the foreign matter with which it was found associated. At Wattle Flat, on the Turon River, and at many places on the older gold-fields, gold was found in the great deposits of iron pyrites, which have since proved to be in a very high degree payable; but these claims, when apparently exhausted, were abandoned some years ago, the miners lacking the necessary knowledge or skill to obtain from the pyrites the whole of the gold they contained. Improved methods of extraction have since been invented and a rich harvest awaits the skilled miner who shall bring to bear upon the development of this industry modern knowledge and appliances such as are being successfully employed in other countries.

Gold is also found in quartz veins, occurring in older and metamorphic rocks, and even more frequently in argillaceous slates, chloritic, and talcose schists, as well as granite and porphyry. Vein gold is associated more commonly with iron pyrites, though found with copper and silver ores, and occurring also in serpentine and asbestos. But the extraction of gold from quartz veins requires the erection of extensive machinery and gold-saving appliances, involving an outlay of capital such as the ordinary miner seldom possesses. Quartz mining is generally carried on by companies, many of which regularly pay handsome dividends to their shareholders.

Some idea of the exceeding richness of many of these gold veins may be gained from a few particulars relating to the yield from various mines at Hill End, which were recorded during 1873. In January of that year 1·02 cwt. of gold was raised at Beyers and Holtermann's mine from 10 tons of stuff, and a slab of vein stuff and gold from the same mine, weighing 630 lb., and estimated to contain £2,000 worth of gold, was also exhibited. Many other similar rich blocks were also shown. The Mint returns for the gold obtained in this mine during 1873 from 415 tons of vein stuff were 16,279·63 oz., value £63,234 12s. Krohman's Company, also at Hill End, raised during the same year 436 tons 2 cwt. of stuff, for which the Mint returns were 24,079 oz. 8 dwt. of gold, value £93,616 11s. 9d.

Gold has been found in the coal measures, and carboniferous strata. The Rev. W. B. Clarke detected it in the Hawkesbury sandstone formation, on the north side of Sydney Harbour, and he also mentions that it is distributed through the sand at the

Production of gold.

mouth of the Richmond River. Along the southern part of the coast of New South Wales gold has been found near the shore in the sand washed by the waves of the Pacific Ocean, whilst at Bermagui, and in the district extending between Moruya and Eden, important discoveries of the precious metal have also been made. It would be impossible to name every part of the colony in which gold is found, as it appears throughout the whole territory, and there is ample evidence that deposits exist which will offer to the prospector or the miner a profitable field of employment for many years to come.

Weight and value of gold exported.

The following table shows the quantity and value of the gold coined and exported yearly since 1851 :—

Year.	Weight.	Value.	Year.	Weight.	Value.
	oz.	£		oz.	£
1851	144,120·88	468,336	1870	240,401·86	916,409
1852	818,751·93	2,660,946	1871	321,468·70	1,232,011
1853	548,052·99	1,781,172	1872	424,100·23	1,634,821
1854	237,910·70	773,209	1873	360,849·97	1,389,705
1855	170,145·73	613,148	1874	270,710·12	1,038,844
1856	183,946·36	666,155	1875	229·385·55	881,480
1857	161,043·26	616,712	1876	155,166·37	581,689
1858	280,557·93	1,082,865	1877	122,619·24	463,130
1859	323,984·02	1,237,662	1878	117,977·88	423,184
1860	381,613·96	1,445,158	1879	107,640·38	399,187
1861	459,879·26	1,771,855	1880	116,750·52	434,641
1862	616,909·71	2,360,383	1881	145,532·05	550,111
1863	467,399·05	1,791,534	1882	129,233·28	491,594
1864	341,954·12	1,304,735	1883	122,256·58	452,611
1865	364,540·63	1,390,803	1884	105,933·43	390,229
1866	287,534·29	1,103,246	1885	100,667·16	366,388
1867	269,407·35	1,043,458	1886	98,446·27	355,600
1868	258,773·41	1,003,002	1887	108,101·00	386,771
1869	252,130·14	967,625			
			Total	9,845,896·31	36,470,409

Decline in gold production.

This table shows that the production of gold in New South Wales has, since the year 1872, considerably decreased. This decrease is explained by the fact that the rich alluvial deposits discovered in the early days have been exhausted, and that other resources of a more permanent nature are being developed. The latter offer steadier employment to the labouring classes, without, it is true, the chance of accumulating rapid fortunes, but with more security against loss.

Alluvial gold-mining.

The principal seats of alluvial gold-mining are the Bathurst and Mudgee districts, and the country watered by the various feeders of the Upper Lachlan, and also in the Tumut and Adelong and Braidwood districts. In 1880, the Temora gold-fields, in the Murrumbidgee district, about 30 to 40 miles from the inland town of Wagga Wagga, were discovered, and were for some years in a flourishing condition. The district is now drifting from mining into an important agricultural settlement. In the north of the Colony, in the New England district; on the coast, in the county of Gloucester; and in the extreme north-west, at Mount Poole and Mount Browne, Milparinka and Tibooburra, the gold-fields sustain a considerable population of miners. The system of hydraulic sluicing is adopted in only two or three mines in the New England district, and at Kiandra, on the southern tablelands, where extensive reservoirs have been formed, and the face of the rocks attacked in various places. In 1886 the Kiandra Gold-mining Company produced 2,454 oz. of gold.

Quartz-mining.

The principal quartz veins are situated near Bathurst, in the Hill End district, and the Mudgee and Cudgegong gold-field, which latter had already yielded up to the end of 1886 1,072,752 oz., or over 44½ tons of gold, valued at £4,162,550. The geological surveyor, who examined this field in 1886, reported that its resources are far from being exhausted. At Adelong, Tumut, Jindera, and near Gundagai, reefs are also profitably worked, as well as on the south coast of the Colony and in the north-eastern districts at Fairfield.

Revival of quartz mining in 1887.

Much enterprise has been shown during 1887 in the search for gold; and quartz reefs have been opened up in many parts of the Colony with profitable results. Old workings which had been abandoned years ago under a prevailing idea that they were valuable only on the surface, and which had scarcely, in any instance, been tested to a greater depth than 200 feet, have been reopened with very encouraging results. This is principally the case at Ironbarks and at Lewis Ponds, the latter district having since proved as rich in silver as in gold deposits. In the country surrounding the great copper mines of Cobar, Nymagee, and Mount Hope, between the Bogan and the Darling Rivers, reefs have been recently discovered; the prospects thoroughly justifying the outlay of capital for the development of these mines. From the extreme west of the Colony, the reports of the mining wardens are equally encouraging, while in the Tumut and Adelong, and other southern mining districts, as well as in New England and the north-west coast much enterprise is being exhibited in the search for the precious metal. An important feature of the gold-mining industry during 1887 is the fact that the number of persons employed in alluvial mining and the revenue derived from this source have diminished in a considerable proportion, whilst quartz-mining is more and more becoming a permanent industry, the returns from that source being greater in 1887 than for some years past.

Authority to dig.

The authority to dig for gold costs only 10s. a year, and entitles its possessor not only to take up ground for mining, but also to occupy, in a town, a ¼ acre, or, outside a town, 1 acre of land for a business site. Mineral licenses are also obtainable at a cost of 20s. per year, entitling the holder to from 40 to 640 acres of Crown and, for the purpose of searching for minerals other than gold.

Extent of mining enterprise.

In 1887, 992 applications were made for auriferous land comprising an area of 7,315 acres. The steam-engines employed in quartz-mining numbered 92, with an aggregate of 1,133 horse-power. There were also 72 crushing machines, and 439 stamp-heads. In alluvial mining there were employed 19 steam-engines, whose aggregate equalled 252 horse-power. The value of the machinery employed in gold-mining in 1887 is estimated at £332,168. During the year 1887, the number of persons more or less regularly employed, in various parts of the Colony, in gold-mining was 6,060, of whom 5,420 were Europeans and 640 Chinese. There were 3,023 persons engaged in quartz-mining, 2,527 in the alluvial diggings, and as to 510 it is not stated whether alluvial or quartz.

Gold sent to Sydney Mint.

The quantity of gold received at the Sydney Mint for coinage, the produce of New South Wales, amounted to 105,268·71 oz., of the gross value of £375,787 16s. 3d., the average price per oz. being £3 11s. 5d. The respective quantities of gold sent to the Mint from the various mining districts of the Colony in the years 1886 and 1887 are shown hereunder.

District.	1886.	1887.
	oz.	oz.
Bathurst	16,356·46	17,675·53
Tambaroora and Turon	4,420·08	2,006·66
Mudgee	4,034·96	4,766·15
Lachlan	10,914·96	10,832·13
Albert	3,390·02	4,199·29
Southern	3,994·09	5,181·86
Tumut and Adelong	7,415·80	4,385·30
Peel and Uralla	1,612·84	3,187·41
Hunter and Macleay	1,555·81	882·22
Clarence and Richmond	769·34	626·71
New England	1,270·10	974·23
Localities unknown	36,120·26	50,551·22
	91,854·72	105,268·71

Coinage of gold in Sydney.

This return exhibits an increase of 13,413·99 oz. in favour of the year 1887. The total quantity of gold which passed through this establishment in 1887 being the largest since the year 1884.

The average weight of gold obtained by each miner in 1887 was 18·19 oz., valued at £65 2s. 3d., but of the number nominally engaged in gold-mining not a few follow other pursuits during a portion of the year. Attempts have been made to ascertain as far as practicable the average yield per ton of alluvium treated, and per ton of quartz crushed, for the whole colony. As regards alluvial mining, the figures given below can only be considered as an approximation, since they represent the results of only a few washings.

Yield of alluvium.

The following table shows the results obtained from the treatment of certain parcels of alluvium in 1887, which may not appear altogether satisfactory, but the statement embraces such a very small proportion of the total quantity treated as to be of comparatively little value for statistical purposes.

District.	Quantity.	Average per ton.			Yield of Gold.		
	Tons	oz.	dwt.	gr.	oz.	dwt.	gr.
Tumut and Adelong	6,653	0	5	4·27	1,722	9	0
Lachlan	10,763	0	2	11·97	1,344	15	0
Southern	158	0	4	0·45	31	15	0
Peel and Uralla	5,000	0	0	2·40	25	0	0
	22,574	0	2	18·42	3,123	19	0

Yield from quartz.

The following table shows the average yield of gold obtained from certain parcels of quartz crushed in several of the mining districts.

District.	Quantity.	Average per ton.			Yield of Gold.		
	Tons.	oz.	dwt.	gr.	oz.	dwt.	gr.
Bathurst	44,291	0	6	13·51	14,533	17	1
Tambaroora and Turon......	3,134	0	8	21·19	1,391	18	20
Lachlan	8,539	0	19	4·97	8,200	8	8
Southern	4,273	0	2	22·66	629	0	0
Tumut and Adelong	3,175	0	14	7·43	2,271	13	0
Peel and Uralla	585	1	2	21·00	669	2	0
Hunter and Macleay.........	258	1	3	6·14	300	0	0
Clarence and Richmond ...	208	0	16	8·31	170	0	0
New England	1,266	0	7	7·17	462	0	0
Mudgee	2,726	1	1	3·03	2,879	10	9
	68,455	0	9	4·93	31,507	9	14

From the date of the first discovery of payable gold, in 1851, to the end of the year 1887, the quantity of gold produced in the Australasian colonies represents a total weight of 82,161,591 oz., extracted in the short space of thirty-six years, and the value of this production is estimated, on the authority of the returns of the Sydney Branch of the Royal Mint, at the enormous sum of £322,771,190. The share of each colony in the production of this wealth is given hereunder :—

Colony.	Weight.	Value.
	oz.	£
New South Wales	9,845,907	36,470,309
Victoria	55,010,933	220,043,730
Queensland	5,432,276	19,789,834
South Australia	231,449	830,952
Tasmania	493,282	1,884,366
New Zealand	11,147,744	43,751,999
	82,161,591	322,771,190

Gold has been discovered in Western Australia, and reefs and alluvial deposits have now been worked for the last two or three years, but the value of the precious metal extracted has not been ascertained.

Silver.—Up to the year 1882, the quantity of silver raised in New South Wales was very small, but in that and the following years extensive discoveries of this metal, associated principally with lead and copper ore, were made in various parts of the Colony, notably at Boorook, in the New England district, and, later on, at Sunny Corner, near Bathurst, and at Silverton, on the Barrier Range, in the western district. Unfortunately smelting operations in the latter district were retarded, owing to the serious drought which prevailed during the two years following the discovery of the lodes. In 1883 and 1884, however, the principal difficulties were surmounted; smelting furnaces were erected on the most modern principle, both at Sunny Corner and at Silverton, and considerable shipments of the metal were made.

The Broken Hill silver mines.

The field of Silverton has, during the years 1885, 1886, and 1887, attained an immense value. Discoveries have been made along the Barrier Range at Broken Hill, Umberumberka, The Pinnacle, and many other points; and the fame of the Silverton mines has spread over the whole world. The richer deposits worked are those held by the now celebrated Broken Hill Proprietary Company. This mine was discovered towards the end of September, 1883, by Mr. Charles Rasp, a boundary rider on Mount Gipps Run. It was originally held by a small syndicate, but was formed into a public company in 1885, with a limited capital of 16,000 shares of the nominal value of £19 each paid up. Work was at once started on a large scale, and discoveries of extremely rich deposits of silver ore have since been almost of daily occurrence.

Barrier Range silver deposits.

The silver deposits extend over an area of about 2,500 square miles in the Barrier Range district, beyond the river Darling, and on the confines of the neighbouring Colony of South Australia. The number of leases recently taken up is very large, and many ventures have been floated into public companies, giving rise to an amount of speculation in shares in the mining exchange of Silverton and the capital cities of the Australian colonies, which recalls the old days of gold discoveries. In the Barrier Range district the lodes occur in silurian metamorphic micaceous schists, intruded by granite, porphyry, and diorite, and traversed by numerous quartz reefs, some of which are gold-bearing. The Broken Hill lode is the largest as yet discovered. It varies in width from 10 feet to 100 feet, and may be traced for several miles, the country having been taken up all along the line of the lode, and subdivided into numerous leases, held by mining companies and syndicates, whose aggregate nominal capital amounts to several millions sterling.

Broken Hill Proprietary Company.

The Broken Hill Proprietary Company holds the premier position. They have erected on their lease a complete smelting plant on the latest and most approved principles, and have enlisted the services of competent managers, whose experience has been

Yield of Proprietary Mine.

gained in the celebrated silver-mining centres of the United States of America. During the year 1887 they raised 51,000 tons of ore, from which 65 tons 18 cwt. of silver, valued at £394,790, and 9,914 tons of lead, valued at £69,400, were extracted. An idea may be gathered of the value of this mine, around which is now settled a population estimated at some 6,000 to 7,000 persons, when it is known that during the great silver "boom" which occurred in the early part of the year 1888, the shares were quoted at £396, whilst now that the market has again returned to a more reasonable state, they are still quoted at £240, representing a capital value of £3,840,000 for this mine alone. The dividends paid in 1887 by the Proprietary mine amounted to £200,000, and from a statement lately made public it is shown that up to the end of that year this mine had turned out 3,189,921 oz. of silver and 12,391 tons of lead, of the gross value of £761,000, and £272,000 was paid in dividends. The shareholders also divided the proceeds of the sale of a portion of their lease, which was offered to the public in London and in the Australian markets, at the enormous capital of £1,000,000. This company, which is known as Broken Hill Block 14, commenced operations at the latter end of the year 1887, and had already raised 800 tons of ore, valued at £4,800.

Value of silver raised in Barrier district.

Among the numerous other mines which operated in 1887, the Umberumberka Company raised 4,605 tons of ore, of which 1,605 tons were sold for £34,330. The total value of the export of silver and silver ores from the Barrier district amounted in 1887 to £522,455. The galena lodes at Thackaringa have also attracted considerable attention. As a natural consequence of the success of these mines, numbers of miners were attracted to the district, and the population, which in 1883 consisted of only a few station hands, had risen to an estimated total of 16,000 souls at the end of 1887. The proximity of Silverton and the Barrier district to the Colony of South Australia could not fail to attract the attention of the business people at Adelaide, who were not slow to realise the advantages which they would obtain by attracting towards their capital the traffic of a region of such immense wealth. The railway system of South Australia was immediately extended to the border, and in the Colony of New South Wales a tramway was laid down, thus connecting the town of Silverton, and the mines of Broken Hill, with the railway to Adelaide and Port Pirie, in the latter instance reducing the land carriage by some 70 to 80 miles.

Valuable silv discoveries.

The success of the Barrier Ranges Mines gave rise throughout New South Wales to a veritable silver fever, and parties of miners were soon abroad in all directions searching for the precious mineral. Their energy was in many instances rewarded by the discovery of payable lodes. Thus at Lewis Ponds, Tuena, Mount Costigan, and many other places between Goulburn and Orange, huge deposits of silver were discovered. The Lewis Ponds Gold and Silver-mining Company commenced operations at once, and, at a depth of 117 feet, struck a lode of gossan ore, containing chlorides of silver and carbonates of lead, with a fair percentage of gold. The geological formation of this part of the country consists of sandstone, limestone, micaceous talcose slates, and porphyry. At Mount Costigan, near Tuena, 30,000 oz. of silver, valued at £4,875, and 103 tons of lead were extracted; and several companies have since been formed to work leases in the neighbourhood known as the Cordilleras.

Sunny Corne

The Sunny Corner Company, which had paid handsome dividends in 1886, and yielded £160,000 worth of silver, suffered a temporary check in 1887; but 16,472 tons of ore were nevertheless extracted, and 318,016 oz. of silver, valued at £55,652, were produced. In the Tumut and Monaro districts, numerous argentiferous lodes were discovered, and great excitement was the consequence. The discovery of extremely rich silver lodes at White Rock, near Fairfield, in the New England district, followed by that of auriferous and argentiferous deposits in the neighbourhood, brought up the excitement to fever heat, and considerable sums of money were asked for these mines, which were offered to the public at prices that may, without exaggeration, be termed fabulous. The closing months of 1887, and the early part of 1888, witnessed all over

Australia an extravagant silver mania, which has since considerably subsided, to the detriment of many who were induced to invest their capital in speculative properties. Numerous companies were formed, whose shares, notwithstanding the fact that work had not in many instances been carried out beyond the initiatory and prospecting stage, became a medium of speculation which could not but end in disaster. But this affects principally undeveloped mines, and properties whose value it is difficult to ascertain. Old and fairly established mines continue to prosper, notwithstanding the depression in the share market, and the coming years will doubtless witness a very large increase in the production of silver and silver ores in New South Wales. In some instances great difficulty is experienced in reducing refractory ores, and it is found more profitable to ship the ore to the Continent of Europe in a concentrated state, which fact explains the anomaly exhibited by the figures showing the value of silver produced in 1887 as compared with the production of 1886.

The quantity and value of silver and silver lead ore exported to the end of 1887 will be seen from the following table :—

Year.	Silver.		Silver and Lead Ore.					Total Value.
	Quantity.	Value.	Quantity.				Value.	
			Ore.		Metal.			
	oz.	£	Tons	cwt.	Tons	cwt.	£	£
Up to 1881	726,779	178,405	191	13	......		5,025	183,430
1882	38,618	9,024	11	19	......		360	9,384
1883	77,065	16,488	136	4	......		2,075	18,563
1884	93,660	19,780	9,167	11	......		241,940	251,720
1885	794,174	159,187	2,095	16	190	8	107,626	266,813
1886	1,015,433	197,544	4,802	2	......		294,485	492,029
1887	177,308	32,458	12,529	3	......		541,952	574,410
Total......	2,923,037	612,886	28,934	8	190	8	1,193,463	1,796,349

It will be seen that the production of silver has, during the past few years, considerably increased, but sufficient time has hardly elapsed since the important discoveries of silver deposits were made to enable them to be properly developed; and it may be confidently expected that, as new mines are opened, and the first mines discovered are brought into full working order, the exports of this metal will rapidly increase. The number of miners engaged in silver and lead mines in 1887 was 1,670, and the average value of mineral won, per miner engaged, during 1887, amounted to £343 19s.

Tin.

Tin.—This mineral occurs principally in the granite and basaltic country in the extreme north of the Colony, near Tenterfield and Vegetable Creek, and in other districts of New England. Tin has also been discovered in other parts of the Colony, and quite lately in the Barrier Ranges, at Poolamacca, but no other fields, besides those already mentioned, have as yet received any practical development. The deposits occur in the shape of stream and lode tin, and are worked by European and Chinese miners. Although this mineral was discovered by the Rev. W. B. Clarke as far back as the year 1853 the opening of the tin-fields of New South Wales only took place in the year 1872, and since that date, to the year 1882, the output from the mines, and the export of tin, increased in a remarkable ratio, as illustrated in the statement below.

Output of tin mines.

Year.	Ingots.		Ore.		Total Value.
	Quantity.	Value.	Quantity.	Value.	
	Tons cwt.	£	Tons cwt.	£	£
1872	47 0	6,482	849 0	41,337	47,819
1873	911 0	107,795	3,660 0	226,641	334,436
1874	4,101 0	366,189	2,118 0	118,133	484,322
1875	6,058 0	475,168	2,022 0	86,143	561,311
1876	5,449 0	379,318	1,509 0	60,320	439,638
1877	7,230 0	477,952	824 0	30,588	508,540
1878	6,085 0	362,072	1,125 0	33,750	395,822
1879	5,107 2	343,075	813 15	29,274	372,349
1880	5,476 6	440,615	682 6	30,722	471,337
1881	7,590 17	686,511	609 6	37,492	724,003
1882	8,059 0	800,571	611 0	32,890	833,461
1883	8,680 1	802,867	445 4	21,685	824,552
1884	6,315 16	506,726	349 13	14,861	521,587
1885	4,657 18	390,458	534 18	25,168	415,626
1886	4,640 18	449,303	326 18	18,350	467.653
1887	4,669 8	509,009	291 13	16,411	525,420
Total......	85,078 6	7,104,111	16,771 13	823,765	7,927,876

Importance of tin to the Colony.

Tin has, it will be seen, contributed in a very considerable degree to the general development of the natural wealth of the Colony, and in point of value its aggregate production stands in the third place after gold and coal, while for some years past its yearly production has even been in excess of that of gold. The production of this metal is now one of the settled industries of the country, and as the supply is practically unlimited the quantity raised depends entirely upon the price realised.

Value of tin exported.

From 1872 to 1882, when the tin-mining industry was at its greatest height and prosperity, the value of the mineral exported had increased from £47,819 to £833,461. In 1883 the production of the former year was nearly maintained, but since that time, owing to protracted dry seasons, which in many cases prevented mining operations, combined with the comparatively low price which the metal brought, the value of the output decreased in 1885 to £415,626. Since then, however, the principal causes of the falling-off in value have been removed, and the present satisfactory price has already induced a revival. The increase in the value of tin produced in 1887 is due solely to the improvement in the price of this metal, which was so remarkable a feature of the European metal market during that year. The production has remained about the same in New South Wales since 1885, but in the year 1887 it shows a value of £525,420, or an increase of £57,767 on that of 1886. For a period of some months the tin market was controlled by a French syndicate, and the price of the metal, which was quoted at £116 per ton in January, 1887, ran up to £166 at the end of the year, fluctuating between the latter price and £170, until February, 1888, when the syndicate, unable to hold any longer, collapsed, and the metal fell rapidly to nearly as low a level as it ever reached within the last twenty years. Whether the present state of the tin market will affect the enterprise lately exhibited by mine-owners in this Colony remains to be seen, but even at the prices now quoted, the rich deposits of New England and the western districts should, if worked on economical principles, handsomely reward industrious proprietors. Within the fifteen years that have elapsed since the opening of the tin-fields the value of the tin exported from New South Wales amounted to £7,927,876.

Copper.

Copper.—The principal deposits of this mineral are found in the central part of the Colony, between the Macquarie, the Bogan, and the Darling Rivers. Deposits have also been found in the New England District, and likewise in the neighbourhood of Kiama, in the Illawarra District, and mines are worked in the Carcoar and Burrowa districts, as well as at Walcha, showing that the mineral is considerably diffused throughout the Colony. The very low price of copper within the last few years has deterred many from embarking in operations which exhibited every appearance of success, and some of the mines which had been worked for many years were closed. Still, in spite of the low price of the metal, there is little doubt that, with the adoption of the more modern methods of smelting, which are now in almost general use in the principal centres of copper production—in Spain, France, England, California, and Chili—the rich mines of New South Wales could be made to show handsome results. A third difficulty, common to other branches of the mining industry, lies in the great distance of some of the chief copper-mines from the port of shipment, and the consequent large cost of land-carriage.

Price of copper.

The prospect of an improvement in the price of this metal did not appear very encouraging at the opening of the season of 1887, and the English quotations continued to exhibit a tendency to maintain the low prices ruling in 1887, and even to further decrease; but towards the middle of that year a European syndicate entered into arrangements with the principal producers of copper, and succeeded in controlling the market for this metal. The prices have, in consequence, risen to a much more satisfactory level. In 1872 copper realized as much as £108 per ton, whilst in December, 1886, the lowest price on record was touched, and only £38 7s. 6d. could be obtained for Chili bars. During the years 1884–1886, the price of Chili bars fluctuated between £58 7s. 6d., the highest quotation for January, 1884, and £38 7s. 6d., the lowest for December, 1886, the average prices for each of the successive years showing the following unsatisfactory state of the market :—

	£	s.	d.
Average for 1884	54	7	6
,, 1885	44	0	0
,, 1886	40	5	0

At the end of 1887, however, copper had risen to £74 per ton, and in August, 1888, it was selling at £81 5s. per ton, a price which is certainly satisfactory and much nearer the statistical value of the metal than the prices realised during the three years above quoted.

Future of copper-mining.

With a reduction in the cost of production and of carriage, the copper lodes of New South Wales, which contain ores of a very much higher percentage than those of many well-known mines worked at a profit in other parts of the world, should return most satisfactory results; and a revival of this important branch of the mining industry of the Colony may be confidently expected.

Principal copper mines.

The more important mines are those of Cobar and Nymagee, situated in the Central Division, and within 80 miles of each other. The former employs over 500 men and boys; the deepest shaft is 664 feet, and the width of the lode from 2 to 50 feet. Nymagee employs a complement of 350 persons, and contains ores consisting of sulphurets and carbonates, the average percentage of copper obtained being 11·42 per cent. The New Mount Hope and the Great Central Copper Mines are also said to be rich in payable ores, but the low price of the metal during the last few years acted against their prospects, as the great distance from cheap carriage at which they are situated increased the cost of production to such an extent as to leave no margin of profit. The improvement in the market has, however, given a new impetus to the copper-mining industry in that district, and the Mount Hope mines, which are being reopened, will soon be in full work.

Produce of copper.

The following table shows the quantity and value of Copper, he produce of the Colony, exported during each year, from 1858 o 1887 :—

Year.	Ingots.		Ore and Regulus.		Total value.
	Quantity.	Value.	Quantity.	Value.	
	Tons.	£	Tons.	£	£
1858	......	....	58	1,400	1,400
1859	30	578	......	....	578
1860	......	.. ..	43	1,535	1,535
1861	......	....	144	3,390	3,390
1862	......	....	213	5,742	5,742
1863	23	1,680	114	420	2,100
1864	54	5,230	......	....	5,230
1865	247	15,820	22	545	16,365
1866	255	18,905	23	1,885	20,790
1867	393	30,189	......	5	30,194
1868	644	23,297	172	4,000	27,297
1869	1,980	74,605	104	2,070	76,675
1870	994	65,671	6	60	65,731
1871	1,350	87,579	94	1,297	88,876
1872	1,035	92,736	417	13,152	105,888
1873	2,795	237,412	51	1,690	239,102
1874	3,638	311,519	522	13,621	325,140
1875	3,520	297,334	157	4,356	301,690
1876	3,106	243,142	169	6,836	249,978
1877	4,153	307,181	360	17,045	324,226
1878	4,983	337,409	236	7,749	345,158
1879	4,107	256,437	36	915	257,352
1880	5,263	359,260	132	4,799	364,059
1881	5,361	350,087	133	4,975	355,062
1882	4,865	321,887	93	2,840	324,727
1883	8.873	574,497	84	2,704	577,201
1884	7,286	415,601	19	578	416,179
1885	5,745	264,905	1	15	264,920
1886	3,969	166,429	58	1,236	167,665
1887	4,464	195,752	299	3,350	199,102
Totals......	79,133	5,055,142	3,761	108,210	5,163,352

Iron.

Iron.—Iron is widely diffused throughout the Colony, but it is ound in greatest quantities in the mountain districts. At Lithgow, Vallerawang, Mount Lambie, and Mount Tomah, in the Blue Iountains, large deposits are known to exist, also at Berrima, Iittagong, Nattai, Mount Kiera, and Jervis Bay, to the south of ydney; in the coal ranges of the Clarence; at Blayney and

Narrandera, and in the Bogan River valley. The ore occurs in the form of magnetite, or magnetic oxide, the richest of all the ores of iron, and as brown hematite, or goethite. The iron ore is found in immense quantities, and within easy distance of the main railway lines. The richness of the ore is marvellous. Thus the clayband deposits, which in New South Wales are brown hematite, contain on an average 50 per cent. of iron, while the English claybands are mostly carbonates, and contain only 30 per cent. of metal. The magnetic oxides are even more wonderful in their yield of metal. Different samples of ore obtained from Wallerawang showed on analysis :—

Ores exceedingly rich.

	No. 1.	No. 2.
Ferric oxide	64·01 per cent.	75·52 per cent.
Ferrous oxide	8·99 ,,	1·01 ,,
Phosphoric oxide	trace	·38 ,,
Sulphur	none	·03 ,,
Silicia	6·7 per cent.	4·35 ,,

Specimens obtained from Mittagong showed from 73 to 85·5 per cent. of ferric oxide, with a bare trace of sulphur, or none, the average being fully 66 per cent. of metal.

Principal iron works.

The chief, and perhaps only works for the manufacture of iron from the ore are situated at Eskbank, near Lithgow, where the metal treated is red siliceous ore, averaging 22 per cent., and brown hematite, yielding 50 per cent. metallic iron. Abundance of coal and limestone are found in the neighbourhood. The quantity of bars and rails made during 1885 was valued at £23,972, and of castings £1,820, and in 1887 these quantities were greatly reduced, their total value only reaching £14,543, while the value of iron and steel imported, mostly for home consumption, during 1887, was £501,223.

The field for the iron-maker in the Colony is therefore enormous, and nature has provided everything needful ready to his hand. The very richness of the magnetic ores has hitherto been the chief drawback to their being worked, for the smelting of rich ores has been exceedingly difficult, and, until recently, little understood.

Since the introduction of the Bessemer process, however, and the successful experiments in the treatment of similar ores in England, the difficulty of smelting has been entirely overcome. From the causes named, the production of iron has been comparatively small, the quantity obtained from ores to the close of 1887 only reaching a value of £265,465.

Antimony.

Antimony.—Deposits of antimony occur in the Colony in various places, chiefly in the Armidale, Bathurst, and Rylstone districts. The deposits are large, and some of the mines, like the Eleanor Mine, of Armidale, are practically inexhaustible. For some time past, however, the price of this metal has not been sufficiently high to offer to colonial producers encouraging prospects. In the antimony mine at Razorback, near Bathurst, gold has been found associated in payable quantities with this mineral. Up to the end of 1887 the value of antimony exported from the Colony was £67,239.

Manganese.

Manganese.—Considerable deposits of oxide of manganese ore have been discovered during the past few years in various parts of New South Wales, some of which yield on assay 87 per cent. of the metal. The demand for manganese in the Colony is very trifling, and until a foreign market is found, or local manufactories requiring the metal spring up, the rich deposits of this ore will remain untouched. The ore is found extensively in conjunction with iron, coal, and limestone.

Bismuth, Cobalt, Calamine, and Mercury are also found in many places, but, with the exception of the former metal, no deposits have yet been systematically worked.

Bismuth.

Bismuth is found associated with molybdenum and gold, in quartz veins in the neighbourhood of Glen Innes, whence the quantity raised has been chiefly obtained. The value of metal exported up to the end of 1887 was £20,576. This industry gave employment to 60 persons in 1887. Deposits of cobalt have been found lately at Port Macquarie, but the market for this metal is small, and no attempt has yet been made to produce it on any large scale. Work has, however, been commenced at the above mentioned locality.

Mercury.

Mercury in the native state was discovered in 1841, on the Cudgegong River, and it also occurs at Ophir and at the Clifton Mine, Boorook, but the deposits have never been worked.

Cinnabar.

Cinnabar has been found at Cudgegong, where a mine was worked for some time; it has also been discovered in the Abercrombie Ranges, and at Moruya. In all cases it was associated with gold, and other minerals.

NON-METALLIC MINERALS.

Coal.

Coal.—The carboniferous formations extend over a considerable portion of the colony, and workable coal-seams have been discovered in many places. At present, however, the coal-mining industry is confined to those centres, which, from their close proximity to ports of shipment, or to the railway lines, afford ready means for the disposal of the commodity when raised.

Discovery of coal.

A.A. Co.'s monopoly.

Coal was first discovered in the Colony in the year 1797 by a man named Clark, who was supercargo of the "Sydney Cove," and later in the same year Lieutenant Shortland discovered the River Hunter, with the coal-beds situated near its mouth. In 1826 the Australian Agricultural Company obtained a grant of 1,000,000 acres of land, together with the sole right, conferred upon them by charter, of working the coal-seams which were known to exist in the Newcastle district. Several mines were opened up, and profitably worked for a number of years; but it was not until the expiration, in 1847, of the monopoly enjoyed by the company, that the coal-mining industry showed signs of development.

Output of coal.

In the year named the yearly output of coal had only reached the total of 40,732 tons, of the value of £13,750. Five years afterwards the production had been doubled, and the output of this mineral has rapidly increased, year by year, and coal-mining has now become one of the staple industries of the Colony. Newcastle is singularly well fitted by situation to become the port of supply for all the countries of the southern seas. Every week vessels leave its wharves coal-laden, not only for the Australian colonies, but for China, India, the Pacific Slope of North and South America, Mauritius, the Cape of Good Hope, and other lands. Every provision has been made by the Government for shipping coal, and nearly three miles of wharves, furnished with cranes and shoots capable of loading 16,200 tons per day, line its shores. The markets of the Colonies are also supplied with quantities of excellent coal from the seams worked in the Illawarra district.

Mountain coal.

The deposits found in the Blue Mountains, near the line of railway which runs along their crest, at Katoomba, Lithgow, Wallerawang, and elsewhere, supply part of the requirements of the city, and other industrial centres in its neighbourhood, as well as part of the western district of the Colony. Coal is also mined at Berrima and other places in that district, whence a large part of the coal consumed in the southern districts of the Colony is obtained. The area over which coal is distributed is very great, and has been computed at 23,950 square miles; besides this it is known to underlie the Hawkesbury sandstone in and around Sydney, having been discovered at various places by boring. Coal has also been found in the Clarence series, though it has not yet been worked commercially.

Coal area.

From the 40,732 tons extracted in 1847 under the monopoly of the Australian Agricultural Company, the quantity raised under public competition and enterprise has in 1887 expanded to the large figure of 2,922,497 tons, valued at £1,346,440, ; and a glance at the statement following will show that the output has steadily increased. Up to the end of 1887 the total quantity of coal extracted from the New South Wales mines, from their opening in the earlier years of the century, amounted to 39,944,907 tons, valued at £19,699,110.

Total quantity obtained.

Coal-mines registered.

In the year 1887 the number of coal-mines registered and under official inspection amounted to 72, of which 49 were situated in the Northern, or Hunter River district, 11 in the Southern, or Illawarra, and 12 in the Western district. These mines gave direct employment to 7,998 persons. The returns for 1887 show an increase in the value of coal raised of £12,165 in the Northern district, £20,690 in the Southern, and £10,420 in the Western districts; a total increase of £43,275 over the value of the coal raised in the preceding year, 1886.

Value of coal raised.

Coal raised in the Colony, and Average Price per Ton.

Year.	Quantity.	Average per ton.		Value.	Year.	Quantity.	Average per ton.		Value.
	Tons.	s.	d.	£		Tons.	s.	d.	£
Prior to 1829	50,000	10	0	25,000	1859	308,213	13	3·14	204,371
1829	780	10	1·23	394	1860	368,862	12	3·36	226,493
1830	4,000	9	0	1,800	1861	342,067	12	9·52	218,820
1831	5,000	8	0	2,000	1862	476,522	12	9·73	305,234
1832	7,143	7	0	2,502	1863	433,889	10	10·66	236,230
1833	6,812	7	6·73	2,575	1864	549,012	9	10·10	270,171
1834	8,490	8	10	3,750	1865	585,525	9	4·43	274,303
1835	12,392	8	10·19	5,483	1866	774,238	8	4·44	324,049
1836	12,646	9	1·06	5,747	1867	770,012	8	10·79	342,655
1837	16,083	9	8·81	5,828	1868	954,231	8	9·08	417,809
1838	17,220	9	9·05	8,399	1869	919,774	7	6·32	346,146
1839	21,283	9	9·73	10,441	1870	868,564	7	3·54	316,836
1840	30,256	10	10·86	16,498	1871	898,784	7	0·47	316,340
1841	34,841	12	0	20,905	1872	1,012,426	7	9·92	396,198
1842	39,900	12	0	23,940	1873	1,192,862	11	1·94	665,747
1843	25,862	12	6·54	16,222	1874	1,304,612	12	1·37	790,224
1844	23,118	10	8·34	12,363	1875	1,329,729	12	3·89	819,430
1845	22,324	7	10·27	8,769	1876	1,319,918	12	2·06	803,300
1846	38,965	7	0·46	13,714	1877	1,444,271	11	10·74	858,998
1847	40,732	6	9·01	13,750	1878	1,575,497	11	8·28	920,936
1848	45,447	6	3·38	14,275	1879	1,583,381	12	0·12	950,879
1849	48,516	6	0·45	14,647	1880	1,466,180	8	6·36	615,337
1850	71,216	6	6·67	23,375	1881	1,769,597	6	9·55	603,248
1851	67,610	7	6·51	25,546	1882	2,109,282	8	11·97	948,965
1852	67,404	10	11·33	36,885	1883	2,521,457	9	6·40	1,201,942
1853	96,809	16	1·51	78,059	1884	2,749,109	9	5·71	1,303,077
1854	116,642	20	5·63	119,380	1885	2,878,863	9	3·72	1,340,213
1855	137,076	12	11·96	89,082	1886	2,830,175	9	2·53	1,303,164
1856	189,960	12	4·06	117,906	1887	2,922,497	9	2·57	1,346,440
1857	210,434	14	0·97	148,158					
1858	216,397	14	11·84	162,162					
					Total	39,944,907	9	10·36	19,699,110

Price of coal.

The above table shows that coal, like other articles of commerce, is subject to fluctuations in price. These fluctuations have to a large extent arisen, in the past, from uncertainty in the markets. This uncertainty no longer exists, for the local markets and those of the other Australian Colonies, demand a large share of the coal raised. The proportion of the total taken by Australasia increases every year, and operates in the direction of steadying the price, by removing the principal cause of fluctuation. The highest average price obtained during any year was in 1854, the first of the Crimean war, when the price per ton was not less than 20s. 6d. In 1872, the output reached 1,000,000 tons, ten years later it had increased to 2,000,000, and in 1887, to nearly 3,000,000 tons.

Local consumption.

The Colony was its own chief customer during 1887, when out of a total production above stated, of 2,922,497 tons, its consumption amounted to 1,132,055 tons, or more than 38 per cent. Victoria came next, with 723,676 tons, or 40 per cent. of a total export of 1,790,442 tons. The quantity of coal required for local consumption for twelve years shows a satisfactory increase during each year.

Year.	Tons of Coal.	Year.	Tons of Coal.
1876	451,101	1882	847,737
1877	528,544	1883	1,009,012
1878	569,077	1884	1,058,346
1879	585,332	1885	1,122,507
1880	712,824	1886	1,094,310
1881	739,753	1887	1,132,055

Consumption per head.

The annual consumption per head increased from 15 cwt. in 1876 to 22 cwt. in 1887. The larger use of steam for railway locomotives, for manufacturing, and other purposes, as well as the multiplication of gas-works, accounts for a large portion of the increase, but it must also be borne in mind that the use of firewood has much decreased in the neighbourhood of Sydney, and that the consumption of coal in the city for household purposes has therefore largely increased.

Export of coal.

The quantity of coal supplied to the customers of the Colony abroad shows also a large increase during this period.

Year.	Tons.	Year.	Tons.
1876	868,817	1882	1,261,545
1877	915,727	1883	1,512,445
1878	1,006,420	1884	1,690,763
1879	998,049	1885	1,756,356
1880	753,356	1886	1,735,865
1881	1,029,844	1887	1,790,442

Countries to which New South Wales coal is principally exported.

The chief customers of New South Wales for coal during the year 1886 will be found in the following table, from which it will be seen how wide is the circle which relies upon the Colony for the supply of one of the chief necessaries of civilization.

Export of Coal during 1887.

Country or Port.	Quantity.	Value.
	Tons.	£
Victoria	723,676	379,206
United States of America	299,802	164,983
New Zealand	150,399	81,478
South Australia	127,370	62,715
Hongkong	86,092	47,448
India	54,214	30,248
Chili	53,133	28,750
Java	51,974	28,739
Tasmania	43,375	23,631
Phillipine Islands	38,821	21,355
Singapore	32,040	17,807

Country or Port.	Quantity.	Value.
Continued.	Tons.	£
China	23,187	14,301
Fiji	21,081	12,067
Queensland	18,613	10,625
New Caledonia	15,153	7,928
Western Australia	13,837	7,429
Sandwich Islands	10,720	5,897
Mauritius	9,916	5,627
Peru	9,368	5,578
Mexico	2,310	1,169
Ceylon	1,741	1,300
South Sea Islands	1,701	1,053
Kaiser Wilhelm's Land	909	650
Panama	577	317
Cape of Good Hope	433	238
Total	1,790,442	960,539

Wealth of Colony in coal

The wealth of the Colony of New South Wales in coal is enormous, and the further development of the industry may be regarded as almost a certainty. As the great Australian Continent is only in the early period of the development of its immense resources, the coal-mining industry of New South Wales may also be said to be in its infancy. It is, however, a very vigorous infancy, giving promise of a great future.

Coal as a heat producer.

New South Wales coal, especially that obtained in the northern mines, compares favourably as a heat producer with the best foreign coal. It has the advantage of a greater specific gravity to the extent of 6 per cent., and it contains less sulphur. The tabular comparison given below gives a clear view of the properties of the principal Australian coals, as contrasted with the mean of British coals. The average of English, Welsh, and Scotch mines will be found after the analysis of Northern District coals, and it will be seen that there is practically little difference between the British and Hunter River coal.

Analysis of Northern District Coals, New South Wales.

Locality.	Specific Gravity.	Composition per cent. exclusive of water only.						Water per cent.	Coke per cent.	Water at 212° converted into steam by 1 lb. coal.
		Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Sulphur.	Ash.			
Wallsend	1·333	79·96	6·26	7·08	·68	1·25	4·77	2·75	61·86	lb. 13·20
Waratah	1·303	81·06	5·81	6·52	1·23	1·14	4·24	2·21	59·97	14·30
A. A. Co., Newcastle	1·297	78·76	6·34	7·28	·79	1·36	5·47	2·20	62·87	12·92
Greta	1·287	78·41	6·60	9·34	1·43	1·44	2·78	2·25	57·13	13·21
Russell's Mine	1·274	77·37	6·48	10·46	1·51	1·43	2·75	1·85	52·65	13·21
Anvil Creek	1·323	77·15	5·91	6·07	1·46	1·48	7·93	1·74	55·70	12·65
Cardiff Mine	1·286	82·25	4·38	6·95	1·03	·35	5·04	1·853	54·43	......
Mean	1·305	79·28	5·97	7·67	1·16	1·21	4·71	2·122	57·80	13·25
British Coals (mean)...	1·279	80·40	5·19	7·87	1·21	1·25	4·05	0·63 to 9·13	61·00	14·82

Analysis of Western District Coals.

Locality.	Specific gravity.	Composition per cent. exclusive of water only.						Water per cent.	Coke per cent.	Carbolic intensity calculated.	Water at 212° converted into steam by 1 lb. coal.
		Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Sulphur.	Ash.				lb.
Eskbank	1·335	72·30	5·43	6·65	·85	1·60	13·17	2·00	62·88	74·26	12·65
Bowenfels	1·399	70·72	5·65	9·65	·93	1·38	11·67	2·36	......	72·45	12·65
Lithgow	1·329	69·41	6·10	11·70	1·03	1·44	10·32	1·95	62·46	72·06	12·10
Vale of Clwydd	1·323	69·86	5·82	11·89	1·02	1·40	10·07	2·10	63·18	71·38	12·10
Mean	1·346	70·57	5·75	9·97	·96	1·45	11·29	2·10	62·84	72·54	12·37

Analysis of Southern District Coals.

Locality.	Specific gravity.	Composition per cent. exclusive of water only.						Water per cent.	Coke per cent.	Carbolic intensity calculated.	Water at 212° converted into steam by 1 lb. coal.
		Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Sulphur.	Ash.				lb.
Nattai	......	91·24	3·60	0·59	......	trace.	4·56	3·28	92·37	85·90	undetermined.
Mt. Kembla	1·363	80·67	5·30	1·58	·70	·87	10·88	1·50	......	82·70	13·21
Mt. Keira	1·379	78·82	5·17	3·87	1·33	1·00	9·81	1·15	74·35	79·83	12·92
Berrima	1·364	69·92	4·55	13·09	·56	1·30	10·58	1·70	64·24	66·53	11·82
Bulli	1·471	76·35	4·75	5·04	......	·55	13·31	1·03	74·78	......	12·21
Mean	1·394	79·401	4·675	4·833	·52	·74	9·829	1·733	76·436	78·75	12·54

KEROSENE SHALE.

Shale deposits.

This mineral is found in various parts of the Colony, but principally at Hartley, Blackheath, Bathgate, near Wallerawang, Joadja Creek, Berrima, Mount Kembla, Burragorang, Lake Macquarie, and Greta, and also at Colley Creek, near Murrurundi, and lately in the Capertee District, in the valley of the Wolgan River. The shale occurs in saucer-shaped deposits, varying in thickness from a few inches to 6 feet. It is a species of cannel-coal, similar to the Boghead mineral of Scotland, but yielding a much larger percentage of volatile hydro-carbon than the Scotch mineral. The richest quality yields upwards of 150 gallons of crude oil per ton, or 18,000 cubic feet of gas, with an illuminating power of thirty-eight or forty-eight sperm candles. The specific gravity is 1·06, amount of sulphur 0·49 per cent., and yield of tar 40 gallons per ton. It is found advantageous for mixing with ordinary coal for the manufacture of gas, and is largely exported to Great Britain, America, and other foreign countries, as well as the neighbouring colonies, for gas purposes. On analysis the following result was obtained from average specimens :—

Volatile Hydro-carbons, including moisture.........	82·50
Fixed Carbon.........	6·50
Ash..	11·00

Quantity and value of shale raised.

Though analyses of this mineral have proved that payable seams occur in many places, only two companies have as yet systematically worked kerosene shale in the Colony—the New South Wales Shale and Oil Company, at Hartley, and the Australian Oil and Mineral Company, at Joadja Creek. These companies not only raise shale for export, but also manufacture from it petroleum oil and other products. The quantity and value of kerosene shale raised since the opening of the mines in 1865 amounts to 481,252 tons, of the value of £1,083,174, as shown in the following table.

Kerosene Shale raised in New South Wales.

Year.	Quantity.	Average price per ton.			Total value.
	Tons.	£	s.	d.	£
1865	570	4	2	5·47	2,350
1866	2,770	2	18	10·48	8,150
1867	4,079	3	14	9·21	15,249
1868	16,952	2	17	7·11	48,816
1869	7,500	2	10	0	18,750
1870	8,580	3	4	3·18	27,570
1871	14,700	2	6	3·91	34,050
1872	11,040	2	11	11·91	28,700
1873	17,850	2	16	6·55	50,475
1874	12,100	2	5	1·48	27,300
1875	6,197	2	10	2·22	15,500
1876	15,998	3	0	0	47,994
1877	18,963	2	9	0·81	46,524
1878	24,371	2	6	11·40	57,211
1879	32,519	2	1	1·96	66,931
1880	19,201	2	6	7·03	44,725
1881	27,894	1	9	2·59	40,748
1882	48,065	1	15	0	84,114
1883	49,250	1	16	10·77	90,861
1884	31,618	2	5	7·86	72,176
1885	27,462	2	8	11·62	67,239
1886	43,563	2	5	10·79	99,976
1887	40,010	2	3	10·43	87,761
Total	481,252	2	5	0·01	1,083,174

Yearly output of shale compared.

Compared with the years 1882 and 1883, the production of the two years 1884 and 1885 exhibits a considerable decrease, somewhat compensated for by the higher price obtained for the shale. The year 1886, however, shows a renewal of activity in the production of this mineral, though a tendency to decrease is again observable in 1887. The cause of the irregularity in the quantity of shale mined will probably be found in the uncertainty of the demand for export, although the quantity required for local consumption has also greatly varied. During the five years, 1883–7, the total export was 92,421 tons, while the amount for home consumption was 99,482 tons.

89549

DIAMONDS AND GEM-STONES.

Number of diamonds found

The existence of diamonds and other gem-stones in the territory of New South Wales has been known for many years, but no attempt had been made to work the deposits until the year 1884, when a company was formed to develop the mines, near the town of Bingera. In the course of the following year, several deposits of diamantiferous wash were discovered in the country round Inverell, in the New England district. Operations, however, have been confined to a preliminary testing of the claims, and some very good results have been obtained.

The number of diamonds found in the Colony to the end of 1887 is estimated at 75,000, the largest being one of 5$\frac{5}{8}$ carats, or 16·2 grains. The diamonds occur in old tertiary river drifts, and in the more recent drifts derived from them. The deposits are extensive, and have not yet been thoroughly prospected. The New South Wales diamonds are harder and much whiter than the South African diamonds, and are classified on a par with the best Brazilian gems. During the year 1887, the diamond companies at Cope's Creek, near Bingera, produced above 23,000 diamonds, weighing 5,151 carats. With efficient methods of working, this industry bids fair to become a profitable one. Diamonds and gem-stones have also been found in other parts of the Colony besides the New England District, and the late Dr. Böhme, a geologist of some merit, who for many years resided at Wellington, obtained from the surrounding country specimens of the whole series of gem-stones known to commerce. This industry, however, has not yet received the attention which it deserves. During the year 1887, a discovery was made in the western districts of gem-stones, which at first, on account of their great hardness and colour, were believed to be rubies. On examination by European specialists, however, these stones proved to be garnets, which, although considerably less valuable, are nevertheless payable as an article of commerce.

Distribution of gems.

MARBLE, BUILDING STONES, FIRE-CLAYS, SLATES.

The Colony possesses a most abundant supply of all the various kinds of stone, and other materials, for the building and adornment of its cities. Marble limestone is found in great masses near Wallerawang, Bathurst, Marulan, Tamworth, and Kempsey, localities which are all within convenient distance of the great arteries of communication, and it is obtainable in all its different varieties. Granite is found near Goulburn, Moruya, and Trial Bay, as well as at many other places throughout the Colony. Most of the granite hitherto used in Sydney has been obtained from Moruya, a port about 180 miles south of Sydney.

Marble limestone.

Granite.

The Hawkesbury formation, over which the City of Sydney is built, provides the city with an inexhaustible supply of sandstone, of the highest quality for building purposes. This material is admirably adapted for architectural effect, being of a pleasant colour, fine grain, and very easily worked. The beauty of Sydney street architecture is due in no inconsiderable degree to the free use of this excellent sandstone.

Building stone.

The coal measures also contain numerous beds of fire-clays, and in every part of the Colony excellent clays, well adapted for brick-making purposes, are extensively worked. Slates are found in several districts, but are principally quarried at Gundagai, and in the surrounding district, as well as near Bathurst and Goulburn. It will be seen, therefore, that the Colony has no need to import building material of any description, and possesses a supply amply sufficient to provide for its own wants and those of its neighbours.

Fire-clays.

Building materials.

The importance of the mining industry to the Colony is shown in the following tables, which contain a comparative statement of the quantity and value of minerals obtained in the years 1886 and 1887, as well as the total value of these products during the last ten years.

Quantity and Estimated Value of Minerals obtained in the Colony—1886 and 1887.

Minerals.	1886.				1887.				Increase in value.			Decrease in value.		
	Quantity.	Value.			Quantity.	Value.								
		£	s.	d.		£	s.	d.	£	s.	d.	£	s.	d.
Gold	101,416·82 oz.	366,294	7	7	110,286·06 oz.	394,578	16	3	28,284	8	8	....		
Silver	1,015,433·50 ,,	197,544	0	0	177,307·75 ,,	32,458	0	0	....			165,086	0	0
Coal	2,830,175·00 tons.	1,303,164	4	1	2,922,497·00 tons.	1,346,162	18	7	42,998	14	6	....		
Shale	43,563·00 ,,	99,976	0	0	40,010·00 ,,	87,761	0	0	....			12,215	0	0
Tin	4,967·80 ,,	467,653	0	0	4,961·05 ,,	525,420	0	0	57,767	0	0	....		
Copper	4,026·80 ,,	167,665	0	0	4,763·35 ,,	199,102	0	0	31,437	0	0	....		
Iron	3,685·87 ,,	19,068	8	2	2,797·43 ,,	14,542	15	1	....			4,525	13	1
Antimony	273·15 ,,	3,381	0	0	168·35 ,,	1,641	0	0	....			1,740	0	0
Bismuth	20·90 ,,	3,870	0	0	36·55 ,,	6,695	0	0	2,825	0	0	....		
Sundry minerals	69·22 ,,	5,327	0	0	1,431·00 ,,	15,624	0	0	10,297	0	0	....		
Silver lead ore	4,802·10 ,,	294,485	0	0	12,530·17 ,,	541,952	0	0	247,467	0	0	....		
Manganese	....	....			460·65 ,,	1,702	0	0	1,702	0	0	....		
Cobalt	....	....			6·40 ,,	1,330	0	0	1,330	0	0	....		
Total value	....	2,928,427	19	10	....	3,168,969	9	11	240,541	10	1	....		

The value of the output of minerals in 1887 exceeds the value of the average annual output by £518,983.

Year.	Gold.	Silver.	Silver Lead Ore.	Tin.	Copper and Regulus.	Iron.	Coal.	Shale.	Antimony and Ore.	Bismuth.	Sundry Minerals.	Total Value.
	£	£	£	£	£	£	£	£	£	£	£	£
1878	430,033	13,291	258	395,822	345,158	6,666	920,936	57,211	1,964	......	1,082	2,172,421
1879	407,219	18,071	535	372,349	257,352	10,550	950,879	66,930	1,046	......	525	2,085,456
1880	441,543	21,878	890	471,337	364,059	15,335	615,337	44,725	1,652	......	1,118	1,977,874
1881	566,513	13,026	1,625	724,003	355,062	47,871	603,248	40,748	17,346	2,728	1,020	2,373,190
1882	526,521	9,024	360	833,461	324,727	37,224	948,965	84,114	16,732	162	1,054	2,782,344
1883	458,509	16,488	2,075	824,552	577,201	26,908	1,201,942	90,861	5,555	650	160	3,204,901
1884	395,292	19,780	241,940	521,587	416,179	24,572	1,303,077	72,176	6,458	2,770	......	3,003,831
1885	378,665	159,187	107,626	415,626	264,920	25,793	1,340,213	67,239	4,296	3,700	7,910	2,775,175
1886	366,294	197,544	294,485	467,653	167,665	19,068	1,303,164	99,976	3,381	3,870	5,327	2,928,427
1887	394,579	32,458	541,952	525,420	199,102	14,543	1,346,163	87,761	1,641	6,695	15,624	3,165,938
Totals.	4,365,168	500,747	1,191,746	5,551,810	3,271,425	228,530	10,533,924	711,741	60,071	20,575	33,820	26,469,557

PART VII.

Vegetation.

FORESTS extend over almost the whole area of the Colony, excepting portions of the Monaro, the Lachlan, and the Murrumbidgee districts, where extensive treeless plains occur, clothed with salt-bush, scrub, or varieties of natural grasses. The country covered by timber may be divided into three classes—open, brush, and scrub forests. Open forests cover the greatest portion of the surface of the Colony, and are found in every formation. The varieties of trees met with are chiefly species of the Eucalyptus tribe, and Melaleuca, Callistemon, and other genera of the order Myrtaceæ.

nce of
pti.

The prevalence of the eucalypti, and the large extent covered by the forests, give the country that appearance of monotony which has been unjustly associated with Australian scenery. But the park-like appearance of the open forests and the beauty of the many flowering shrubs win admiration, in spite of the sameness of the trees; while even the dull, greyish blue of the foliage of the gum-trees, when relieved by the yellow blossoms of the wattle, the graceful myall, or the beautiful and shapely kurrajong, is not without its attractiveness. The trees are for the most part perfectly straight and cylindrical in the trunk, and when full grown, their first branch is at a considerable height from the ground. The roots of the eucalyptus lie at no great distance from the surface soil, an adaptation of nature to the peculiar climatic conditions of the country. The finest specimens of most of the timber trees, those yielding the most valuable timber, are found on ridges and hill sides, in places frequently too rough and stony for cultivation. This circumstance is in many ways fortunate for the Colony. In the course of settlement, when the rich plains are denuded of their trees, and when scarcity will make timber more appreciated than at present, land not adapted for agricultural settlement will still be available for the cultivation of the finest trees. It would be impossible, in the limits of this volume, to enumerate all the trees which are of commercial value; but a list of the best known varieties will not be without interest.

Chief varieties of timber trees.

On the river flats immense specimens of flooded gum *(E. rostrata)* and apple-trees *(Angophora subvelutina)* mark the course of the streams. The flooded gum grows to a height of 100 feet, and its wood is most useful for heavy work, and for structures liable to attack by the white ant. The apple-tree has more spread than the majority of indigenous trees, its wood is strong, heavy, and durable. The distribution of the species is very extensive.

On the ridges, and mountain sides, other varieties of trees predominate. The box reaches 180 feet in height, with a thickness of 6 feet, and the timber is used chiefly for firewood, for which purpose it has no superior. The bastard box, supposed to be a cross between the box and grey gum, is widely distributed over the Colony. The quality of the timber varies greatly, according to the place of growth; some varieties are surpassed amongst hard woods by nothing except ironbark.

Ironbark.

Ironbark *(E. leucoxylon* and *E. paniculata)* is a tree of moderate size, usually when full grown from 60 to 80 feet in height, though the white ironbark attains a height of 150 feet. The timber is heavy, and renowned for its great strength, fine specimens bearing a tensile strain half as great again as the best oak. The timber is used most extensively for wharves and bridges, as also for housework. Ironbark is very widely distributed, and frequently grows to perfection on the poorest soil. The ironbark and box are slow growing trees, as compared with many other varieties of eucalyptus, such as the blue gum, which latter attains a great height in a very few years.

Blue gum.

The blue gum *(E. globulus)*, one of the finest of the eucalyptus tribe, is only met with in portions of the southern table-land, but the blue gum *(E. goniocalyx)*, also called flooded gum, grows extensively in the coastal districts. It attains a moderate height, but is rather thicker in the trunk than most varieties of gum trees, sometimes reaching 7 feet in diameter. The timber is greatly in demand, owing to its comparative lightness, and is easily worked, being used for all purposes to which hardwood is applied.

Spotted gum.

The spotted gum grows in all the coast districts, and in some portions of the interior, generally where the soil is poor. This is one of the handsomest of the forest trees, and attains a height of 100 feet. The quality of the wood varies greatly, according to the habitat and the character of the soil; when good, it is considered specially adapted for ship-building.

Stringybark.

Stringybark, so called from its peculiar fibrous bark, grows chiefly on the northern table-lands. It is a large tree, and its wood is of great and general utility. The bark is extensively used for thatching, and forms a very useful paper-making material.

The messmate *(E. obliqua)*, also called stringybark, is one of the largest of Australian trees, being frequently met with more than 250 feet in height. It grows in the south-eastern portion of the Colony. The bark is used for thatching, being similar in character to that of the tree just described; it would also form an excellent paper-making material.

The blood-wood is a large tree, growing in the coastal districts of the Colony. The timber is used chiefly for fencing purposes, and for railway sleepers.

Grey gum.

The grey gum *(E. tereticornis)* grows to a height of 150 feet, and is extensively distributed over the whole of the coastal districts. It yields excellent timber, hardly inferior to ironbark. There are several varieties of this tree, some of which produce wood of remarkable beauty, and of great durability.

Tallow-wood.

The tallow-wood is a very large tree, growing extensively in the forests north of Sydney. Its wood is more easily wrought than most of the hardwoods, and has great strength and durability, being employed largely for floors, and other building purposes, and for the decking of ships.

The mountain ash, or white-top, is found both on the table-lands and in the coast districts. Its timber is in demand for coopers' work, and for rough carpentry. The tree grows to about 150 feet in height.

Turpentine tree.

The turpentine tree *(Syncarpia laurifolia)* is found mainly in the district lying between the Shoalhaven and the Macleay. It grows to magnificent proportions, sometimes reaching a height of 200 feet, with a diameter of 6 feet. The timber is largely used for piling, and other work in sea-water, as it resists the attack of the teredo better than any other New South Wales timber.

BRUSH FORESTS.

Features of brush forests.

The brush forests cover a considerable extent of country along the coast. The trees found in them differ entirely from those of the open forests, and there is no lack of variety either in the character of the trees or the colour of their foliage. Tall graceful fern trees, sometimes attaining a height of 60 feet, beautiful varieties of palms, cabbage-trees, and Moreton Bay figs of enormous proportions, are prominent features of the brush, though these are perhaps more ornamental than useful. There are, however, found in the brush forests timber trees of the greatest value.

Red and white cedar.

The red and white cedar *(Cedrela toona* and *Melia composita)* were once abundant in the northern forests, but at present most of the full grown trees are met with only on the high ridges. The red cedar is a magnificent timber tree, often attaining a height of 150 feet, with a girth of over 30 feet. Its timber is of great value, being light, easily wrought, durable, splendidly grained, and well adapted for furniture and cabinet-making. The white cedar is a pretty tree growing to a height of 80 feet, with a diameter of

3 feet. Its timber is soft and easily worked, but is deficient in tensile strength and durability, and therefore in no great demand.

Silky oak.

The silky oak grows to the height of almost 100 feet, under favourable circumstances, and yields a wood highly prized for staves.

Tulip-wood.

The tulip-wood is a tall tree with beautifully marked timber of various shades, and susceptible of a fine polish.

Ash.

The ash, or pigeon berry-tree, grows to a great height, sometimes reaching 130 feet, with a diameter of 5 feet. Its timber is light and tough, and in good demand.

Colonial pine.

The colonial pine *(Araucaria Cunninghamii)* is one of the finest trees of Australia, sometimes reaching a height of 200 feet, with a trunk 5 feet thick. Its timber is extensively used, being cheaper than any imported pine ; it is white in colour and easily wrought.

Beech.

Native beech is also a tree of noble proportions, reaching 150 feet in height. Its timber is greatly in demand, being superior to most native timber when exposed, as it neither shrinks nor warps. In colour the wood is white or silvery, with a fine close grain.

Besides the varieties mentioned above, there are in the brush forests many other trees, yielding timber of large size and of great value, but the abundance of timber of other descriptions more readily accessible, has hitherto satisfied the local demand, and the resources of these forests have been almost entirely overlooked.

Great variety of timber in brush forests.

The character of the vegetation of the brush forests alters considerably according to the latitude. The trees of the Araucaria and Flindersia tribes, as well as the principal varieties of cedar, find a home chiefly in the northern parts of the Colony, while many of the trees growing in the south have no representatives in the northern forests. The soil of the brush lands is wonderfully fertile, consisting as it does of decomposed volcanic rocks, enriched by the accumulation of decayed vegetable matter, and when cleared yields an abundant return.

SCRUB FORESTS.

The scrub forests are found in the poor soils, principally in the Lachlan and Darling districts. The chief species represented are the pine, the acacia, and the eucalyptus, but although some of the trees are of great beauty, they have little commercial value. The most uninviting portion of the Colony is covered with scrub, and the mallee districts, clothed as they are with stunted timber, a variety of the eucalyptus, impress the traveller more unfavourably than would even a barren waste.

Dividing the timber trees of New South Wales into the natural divisions of hardwoods, softwoods, and pinewoods, the larger portion, both as to the variety of trees and the area covered by the forests, comes under the first-mentioned class. All the trees already referred to as growing in the open forests are hardwoods; and besides those described there are many others, of recognized commercial value, which are extensively used.

Australian hardwood trees are remarkable for the great size of the beams which may be obtained from them, as well as for the great toughness and durability of their wood. In a subsequent table the mean tensile strength of various timbers is given, from which it will be seen that the red-flowering ironbark has a tensile strength of 4·76 tons per square inch, as compared with 2·5 tons for English oak, and 1·47 tons for teak. None of the other timbers has so high a tensile strength as this description of ironbark, but nearly all the varieties have a greater tensile strength than oak. As already pointed out, the quality of the wood is materially influenced by the soil on which the trees grow, and the great range of strength given for some woods is due to this cause. The absence of branches for the greater portion of the height enables the timber to be obtained to the best advantage; and as full-grown trees of most varieties are rarely less than 100 feet high, with corresponding girth, the quantity of timber obtainable is very large. Hardwoods.

The softwoods of the Colony are found chiefly in the brush forests of the coast district, and rival those of any other part of Softwoods.

Beauty of brush timber.

the world. Some of the least known of the brush forest trees have wood grained and marked most beautifully, which is capable of receiving the highest polish, while others are fragrantly perfumed. These woods are adapted to the finest description of cabinet-making, and it is strange that their merits should have so long escaped attention. Amongst the chief varieties of woods of this class may be mentioned the red cedar, now unfortunately disappearing, whose beautiful wood, somewhat resembling mahogany, is admirably adapted for the finer kinds of cabinet-makers' work. Some of the cedar trees grow to immense size, as much as 2,500 cubic feet of valuable timber having been obtained from one tree. In addition to the cedar may be mentioned rosewood, tulipwood, yellowwood, white maple, white beech, myall, marblewood, mock orange, and many others. Besides their use for cabinet-making, many of the brush timbers are of great utility for the rougher kinds of carpentry, while some, both hard and soft woods, are admirably adapted for coachbuilders' and coopers' work.

Pinewoods.

The chief description of pine growing in New South Wales is the Moreton Bay white pine, found in the coast districts, as far south as the Bellinger. It is soft, light, and easily wrought, and suitable for all the interior wood-work of houses, as well as for cabinet-making. The red or black pine is extensively distributed over the Liverpool Plains, and in the Lachlan and Darling River districts, as well as around Berrima. It is beautifully marked in the grain, takes a fine polish, and has an agreeable fragrance. There are numerous other varieties of pine, but these resemble in their main features the trees already described.

Colonial deal is an excellent timber, and is obtained in very large scantling, the tree frequently reaching 120 feet in height. It is soft, close-grained, easily wrought, and remarkably free from knots. Its use, therefore, is extensive for cabinet-makers' work and house fittings.

Importation of timber very large.

Notwithstanding the very large resources of the Colony as a timber growing country, the importation of wood is very large.

In 1887, the quantity amounted to 14,581,126 feet of dressed timber, valued at £122,937, and 35,233,473 feet of undressed, valued at £238,909; besides which there were sundries to the value of £6,668, the total value of timber imported being £368,514.

Importation of timber.

The importation of timber is chiefly from the United States, New Zealand, Great Britain, British Columbia, and Scandinavia. From the western sea-board of the United States the Colony receives its largest supply, the importations during 1887 amounting to 2,327,858 feet of dressed, and 15,157,529 feet of undressed, or rough timber, a quantity equal to nearly 33 per cent. of the whole. This timber is chiefly what is known as Oregon pine. Next to the United States comes New Zealand, from which the Colony received 3,023,488 feet of dressed, and 10,560,676 feet of undressed timber, mostly kauri pine.

The export of colonial hardwood is considerable, but relatively small as compared with the timber imported. During the year 1887, 179,572 feet of dressed timber, valued at £1,456, and 15,541,220 feet of rough or undressed, valued at £80,100, also sundries to the value of £2,712, or a total value of £84,268, were exported.

Exports.

During the six years which closed with 1887, the exports of New South Wales timber were :—

Year.	Dressed Timber.	Undressed Timber.
	Feet of 1 in. thick.	Feet of 1 in. thick.
1882	132,894	5,771,868
1883	218,517	8,611,237
1884	320,093	14,239,211
1885	203,930	9,777,797
1886	133,973	13,255,804
1887	179,572	15,541,220

It will be seen that the quantity exported varied greatly; this is entirely due to the fluctuation in the amount taken by Victoria. In the years 1884–6–7 large public works were being executed in that colony, requiring considerable quantities of hardwood, which was most readily procurable from New South Wales.

Export of timber.

Out of a total export of 14,239,211 feet of undressed timber in 1884, Victoria took 11,170,536; in the following year out of 9,777,797 feet 6,696,653 feet went to Victoria, and during 1886, 10,553,955 feet were taken by that colony, out of a total export of 13,255,804 feet, while in 1887 Victoria took 11,165,833 feet, the total export being 15,541,220.

Next to Victoria, Queensland and New Zealand imported the largest quantity of New South Wales timber; the export to these colonies is almost entirely of undressed timber, that to New Zealand being chiefly square timber and scantling. During 1887, Queensland imported 3,305,280 feet; in 1886, 1,014,946 feet; in 1885, 1,501,067 feet; in 1884, 1,241,848 feet; in 1883, 1,320,855 feet; in 1882, 4,561,080 feet. New Zealand in 1887 imported 556,017 feet; in 1886, 1,018,143 feet; in 1885, 1,044,404 feet; in 1884, 1,173,460 feet; in 1883, 1,204,520 feet; and in 1882, 679,136 feet.

No necessity to import timber.

As already pointed out, although the Colony is endowed with great wealth of timber, not only of hardwood but of softwood and pine, the imports very largely exceed the exports. The imports, however, are chiefly pine and softwood. The pine grown in the Colony is in some respects inferior to both Oregon and kauri, hence the large importation of these timbers, but the softwoods of the country will bear favourable comparison with those of any part of the world, both for durability and beauty. They are easily wrought and well adapted for the finer kind of carpentry and cabinet-work, and it is only because they are so little known that the softwoods of the brush forests have not been more extensively used.

Strength of N.S.W. timber.

The specific gravity and tensile strength of various New South Wales timbers, and of some of the best known European and other varieties, are shown in the following table. The tensile strength is given in tons per square inch of section, and represents the breaking weight applied at the centre.

other Varieties of Timber.

New South Wales timber trees	Specific gravity.	Tensile strength per sq. inch.	European and other Foreign timber trees.	Specific gravity.	Tensile strength per sq. inch.
Hardwoods—		Tons.			Tons.
Red-flowering ironbark	1·173	4·762	English oak	·893	1·713 to 3·380
White ironbark	1·109	4·463	Teak	·745	1·474
Red ironbark	1·159	3·669	Mahogany	·678	1·338
Grey gum	·996	3·937	English ash	·760	1·687
Turpentine	·899	3·113	Fir (Riga)	·541	1·808
Blackbutt	1·109	2·899	Yellow pine	·551	1·231
Bastard box	1·152	2·982 to 3·424	Kauri pine (New Zealand)	·550	1·803
Stringybark	·883	3·103	Pitch pine (American)	·659	2·083
Red mahogany	·891	3·281 to 3·992	Cedar (American)	·439	1·281
Mountain ash	·761	2·821 to 4·136	Red Pine (Canada)	·553	1·207
Messmate	·933	2·521 to 3·419	Ironwood (Burmah)	1·176	4·311
Spotted gum	1·101	2·821 to 3·571	Beech	·705	2·166
Pine, &c.—			Larch	·649	1·876
Murrumbidgee pine	·578	2·066	Greenheart (Guiana)	1·141	3·937
Richmond River pine	·626	2·016	Elm	·642	2·437
Red cedar	·508	1·716 to 2·124	Hornbeam	·819	2·860

FOREST CONSERVATION.

Destruction of timber.

The necessity of preserving the timber resources of the Colony, and preventing the ruthless destruction of the best species of brush and hardwood, hitherto carried on by settlers and timber-getters, principally in the Clarence River district, and in the eucalyptus forests on the Murray, decided the Government, in 1871, to establish a certain number of forest reserves throughout the country, in which permission to cut timber should be granted upon payment of a fixed fee. It soon became apparent that stringent regulations alone could put a stop to the reckless operations of the licensed timber-getters, but it was not until September, 1878, that such regulations were issued. These appeared not a day too soon, as the best species of cedar, which abounded in the Clarence River districts, had been exploited to such a wasteful extent that the supply of this magnificent timber threatened to give out. Cutting down indiscriminately trees of all sizes, and clearing the lower lands of their best timber, the cedar-cutters, after disposing of all that could be cheaply transported, or easily floated down the rivers in time of flood, left a considerable surplus of felled timber on the ground to lie and rot. They then travelled further north, to carry on the same depredations along the rivers of the neighbouring Colony of Queensland. The same system had been pursued in the gum forests of the Murray. Considerable quantities of excellent timber were destroyed in the forest reserves of that part of the Colony, to the detriment of the district, which was deprived of its natural wealth, and to the injury of the Colony at large, which suffered the loss of much of its best timber without receiving an equivalent in revenue.

Forest Conservation Branch formed.

In 1875, the office of Forest Ranger was first created, and this led to the formation of a Forest Conservation Branch attached to the Department of Mines, which was established in March, 1882. Since the 1st January, 1888, however, the Forest Conservation Branch has been under the administration of the Department of Lands. Since the year 1882 the Colony has been subdivided into a number of districts, continually inspected by forest rangers, whose duty is to report on the existing state of proclaimed reserves, control the operations of licensed timber-getters, receive royalties on the various kinds of timber, upon which such dues may be levied, and report upon applications to ringbark trees on Crown lands, whether comprised in State forests, reserves, or otherwise. The number of forest rangers and assistants at present employed by the department is thirty-seven, and they have the supervision of thirteen State forests with an area of 91,726 acres. The timber reserves throughout the Colony number 894, and cover an area of 5,564,655 acres, so that the total area of land devoted to the conservation of timber in New South Wales amounts to 5,656,831 acres.

Forest rangers.

Shipment of timber.

On the reserves subject to royalty, the quantity of timber cut in 1886, amounted to 8,021,266 superficial feet, besides 1,900 trees for piles and other purposes. In 1887 the quantity of timber cut measured 8,745,821 superficial feet, in addition to which there were 1,207 trees felled. The quantity of timber returned by the forest rangers as shipped from twenty-nine coastal stations, exclusive of Sydney and Newcastle, which are ports of re-shipment, can only be ascertained for the year 1885, and was :—

Sawn timber, hardwood, and cedar	57,418,631	sup. feet.
Hardwood, piles, girders, and logs	3,219,679	,,
Cedar in logs	1,731,000	,,
Paving-blocks	300,000	,,
Total	62,669,310	,,

Besides	Piles	2,350	running feet.
	Do	2,260	number of.
	Sleepers	31,407	,,
	Posts and rails	185,600	,,
	Palings	523,402	,,
	Spokes	86,283	,,
	Felloes	60,000	,,
	Dray shafts	546	,,
	Laths	2,315,900	,,

Revenue from timber licenses.

The revenue derived from the issue of timber licenses, from royalty, permits, and other dues, amounted in 1887 to £13,629, Revenue from forest reserves.

and the revenue received from the forest reserves of the Crown since the coming into force of the regulations proclaimed on the 24th of September, 1878, in each of the following years was—

	£
1879	7,310
1880	8,328
1881	10,156
1882	12,327
1883	16,301
1884	17,565
1885	13,144
1886	13,934
1887	13,629

or a total of £99,065, which, before the introduction of the present system, would have been a loss to the country, without taking into consideration the much greater loss caused by the wasteful and indiscriminate felling carried on in former years.

Girth of timber which may be felled.

Under the present regulations, care is taken to preserve from destruction all timber below a certain girth, measured at a height of 5 feet from the ground, according to a careful classification of the various timbers at present in demand. Trees not named in this list may be cut at the minimum girth that may be endorsed on the license, or as specified in writing by the forest ranger in charge of the reserve.

The prescribed girth is set forth hereunder:

Hardwoods.

Timber.	Girth. ft.	Girth. in.	Timber.	Girth. ft.	Girth. in.
Blackbutt	7	6	Blood-wood	6	0
Tallow-wood	7	6	Mountain ash	6	0
Red gum or flooded gum	6	6	Mahogany (forest)	6	0
Gray gum	6	6	*Ironbark (red, gray, and broad-leaved)	6	0
Woollybutt	6	6			
Brush or white box	6	6	Peppermint or red-wood	5	6
Turpentine	6	6	Swamp mahogany	5	6
Blue gum	6	0	*Stringybark	5	0
Spotted gum	6	0	Blackwood	4	0
Messmate	6	0	Yellow and white box	4	0

Softwoods, &c.

Timber.	ft.	in.	Timber.	ft.	in.
Red cedar	9	0	Black, red, or white pine (Frenela)	3	0
Hoop or Moreton Bay pine	7	6			
White beech (Gmelina)	7	0	Swamp oak	3	0
Silky oak	6	0	Forest oak	2	3
Rosewood	6	0			

* West of Great Dividing Range, 4 feet.

State nursery and cultivation of trees.

The operations of the Forest Conservation Branch are not solely limited to the preservation of native trees. It is also charged with the creation of a State nursery, the site for which was selected at Wyong, in the beautiful district of Brisbane Water, where the acclimatization of valuable foreign timber trees, and the conservation of such of the best indigenous species as might be otherwise likely to disappear, are attended to. The formation of plantations in various parts of the Colony, and along railway lines, also forms part of a programme which is yearly becoming enlarged. In the forest reserves of Orara and Dorrigo, in the north-eastern district of the Colony, cedar planting has been carried on for some years, under departmental supervision, and up to the end of 1885, 8,258 trees and root-cuttings of cedar trees, and self sowing seedlings, had been counted in the latter reserve. Plantations of the American *Catalpa speciosa* were also made on the Railway Reserve at Cootamundra, and wattle plantations have been formed along the southern railway line from Minto to Burradoo. The total number of cedar trees planted to the end of 1887 was 40,621, in addition to which a large number of plants have been raised from seed. About 40,925 trees of other descriptions have also been planted under the auspices of the Forest Conservation Branch.

Plantations in forest reserves.

The Forest Conservation Branch has collected a large number of varieties of indigenous timber trees, which were placed on view at the London Colonial and Indian Exhibition; and a second collection consisting of several hundred specimens of different kinds of colonial timber is now exhibited in the Geological Museum attached to the Department of Mines.

State forests and timber reserves.

Reserves for the preservation of timber are divided into two classes, viz., State Forests and Timber Reserves, and the latter are subdivided into three sub-classes, A, B, and C, according to their importance, and the particular quality and value of the timber which they contain.

Timber licenses and permits.

Licenses are issued to cut timber on reserves in class A at a fixed fee of £6 per annum, or 10s. per month, and without royalty;

on reserves in class B the fee demanded amounts to £9, or 15s. per month; on reserves in class C general permits to cut timber for saw-mills are issued at a rate of £6 per annum, to which is added the payment of a royalty, which differs according to the value of the timber felled, and is based on the following classification:—

Saw-mill timber placed in the 1st class, 1s. 3d. per 100 superficial feet.
" " 2nd " 1s. " "
" " 3rd " 9d. " "
" " 4th " 6d. " "
" " 5th " 3d. " "

Timber-cutting on Crown lands.

Licenses are also issued to cut and remove timber on ordinary Crown lands—excepting State forests, timber reserves, reserves for public recreation, or sites for towns and villages, or permanently dedicated for any public purpose; also lands within 1½ chain of any navigable river, or held under conditional lease, measured for sale, within an enclosure of less than 200 acres, or within half a mile of a head station. The fee in this case is fixed at £3 per annum, or 15s. per quarter, or 5s. for any current month, and the license enables the holder to cut and remove any kind of timber, except cedar. The license fee for cutting cedar, and for shipping wattle bark, is fixed at £6 per annum, and no cedar-tree of less girth than 9 feet, measured at 5 feet from the ground, may be felled without special authority.

Permits to cut and strip bark.

Permits are issued for cutting mining props, and for thinning out timber, in order to improve the growth of the trees remaining; for cutting and removing from a reserve a specified number and kind of trees; and also for stripping wattle-bark, or the bark of other trees for tanning purposes.

Penalties.

Infringements of the timber regulations are punishable by fine, not exceeding £5 for the first offence, £10 for the second, and £20 for the third, irrespective of the value of the timber and material destroyed, for which also the offender may be held responsible.

PART VIII.

Fauna.

THE fauna of New South Wales is characterised by the absence of the forms of animal life familiar to the Old World, and the presence of genera and species peculiar to the Australian Continent.

MAMMALIA.

The order of mammalia is represented in this Colony by the principal existing species of marsupials. The Macropidæ include several kinds of kangaroos and wallabies, the characteristics of which are too well known to need more than passing reference. The progress of settlement has driven these animals from the more densely-populated parts of the colony, but in the country districts they are numerous enough to cause very considerable damage to the natural grasses. So serious has been the injury thus wrought, that the State and run-holders pay a small sum per head for the destruction of these animals. The number of kangaroos and wallabies, as estimated by Inspectors of Stock, existing in the Colony in 1886, was about 4,600,000, and no fewer than 476,438 kangaroos and 388,089 wallabies, a total of 864,527 animals, were destroyed during the year 1887.

Number of kangaroos, &c.

The genus Paramelidæ is represented by the wombat, and several kinds of rats and rabbit-rats, which latter burrow underground like their European prototype. They abound particularly in the western districts.

Phalangystæ.

The Phalangystæ, which embrace several varieties of opossums, are found in all parts of New South Wales. Some of the specimens of this family are very handsome, and their thick soft furs afford a valuable article of commerce. The prettily-marked skins of the members of the Dasquiridæ family, or native-cats, are also in great demand.

The Echidnæ are represented by several varieties of "spring ant-eaters," somewhat resembling the English hedgehog. The favourite food of these animals is the various kinds of ants, which are found all over the country.

Flying foxes, and numerous varieties of bats, are also indigenous to New South Wales, and make great depredations among the fruit-trees.

Platypus.

Of all the animals found in the Colony, the most curious and interesting is, perhaps, the *Ornithorhynchus paradoxus*, or Duck-billed platypus, the fur of which is very highly prized.

Destruction of native animals

Most of the animals above mentioned appear to be more destructive than useful, and if we except the trade in opossum and native-cat furs, and kangaroo skins, the commercial value of the indigenous mammals is very small. They are being gradually displaced, as civilisation advances, by the more useful animals of the Old World, for which the climate of New South Wales seems especially adapted, and which now form the principal source of the wealth of its inhabitants. The acclimatisation of the more useful European species quickly follows the destruction of indigenous animals, and the wilds of the western districts of the Colony, which erstwhile were the abode of the kangaroo and dingo, or native dog, are now the home of vast flocks.

Extinct species.

Geological research has brought to light the remains of numerous extinct species of gigantic mammalia. The largest of these prehistoric animals was the *Diprotodon*, a marsupial quadruped, which, according to Professor Owen, was as large as the rhinoceros or hippopotamus. Fossil remains of another large marsupial, the *Nototherium*, somewhat resembling a tapir, and of a marsupial lion

(*Thylacoleo*) have also been discovered. Bones of gigantic kangaroos (*Macropus titan*) have been frequently met with, as well as those of a species of wombat larger than that actually in existence.

The remains of animals belonging to two distinct genera, representatives of which still exist in Tasmania, the *Thylacinus*, or pouched hyena, and the *Sarcophilus*, more commonly known as the Tasmanian devil, have also been found in the fossilised state.

BIRDS.

Variety of birds.

All the more important families of birds are represented in the fauna of New South Wales, which contains also a number of families peculiar to the Colony. Few countries can boast of a greater variety of beautiful birds. The parrot family is represented by a large number of species, including the love bird, the green parrot, many kinds of lories, all gorgeously clothed; and amongst the larger species, the white and black cockatoo, yellow and pink-crested, and the grey pink-crested gallahs. The family of honey-eaters *(Meliphagidæ)* is also represented by numerous and very beautiful varieties.

Amongst the larger kinds of birds found in the Colony are the *Megapodidæ*, which includes the brush turkey. These exist in great numbers in the western parts of the Colony, and their flesh is highly prized. In the western districts are also found the emu, the largest of Australian birds, and the native companion, a large water bird, somewhat like the crane in appearance.

In the more thickly-timbered parts of the brush forests, the home of the stately tree-fern, is found the lyre-bird *(Menura superba)* a species of pheasant, whose tail forms a most graceful ornament. Here also abound the satin-bird, species of regent-birds, and the rifle-bird, all famed for the beauty of their plumage.

Aquatic birds.

Amongst water-birds are several species of cranes, and enormous numbers of wild fowl of all descriptions, as well as black swans. The latter is essentially an Australian bird, and may be met with

The kingfisher.

in all parts of the Colony. The great kingfisher, or laughing-jackass, so named from its extraordinary cry, is one of the most useful of birds, owing to the readiness with which it destroys snakes. Magpies and mocking-birds may be included amongst those denizens of the forest which more prominently attract the attention of travellers. There are also several species of owls, and other night-birds, and the eagle family has not a few representatives.

The pigeon tribe.

The pigeon tribe is found in large numbers, especially in the great primæval forests of the coast districts. In the cedar brushes of the Liverpool Range the white-headed fruit pigeon is very numerous; and in the brush forests of the Clarence, the Richmond, the Macleay, and Illawarra, the top-knot and large-tailed pigeons, and the Wonga Wonga *(Leucosarcia picata)*, so prized for its large size and the whiteness and delicacy of its flesh, are very plentiful. The bronze-winged pigeon is common to almost all parts of the Colony. Several varieties of these birds are remarkable for their beautiful plumage, their size, and the excellence of their flesh. One of the finest varieties, the partridge bronze-winged pigeon, is found almost exclusively in the plains of the interior. Doves are also numerous, and most of the species are extremely delicate and beautiful. The little turtle-dove of the Murray River *(Geopelia cuneatra)* is the prettiest specimen of this family.

Other varieties.

Besides the varieties of birds mentioned above, there are many others, of perhaps less note, but numerous, and frequently very beautiful. They are all admirably described and depicted in the celebrated work of Dr. Gould, which occupies a high rank amongst the scientific publications of the century.

FISHES.

The seas which wash the shores of New South Wales abound with fish, but none of the resources of the Colony has been so much neglected as the fishing industry. All the best fishing-grounds lie within a moderate distance of Sydney, and as recently pointed out by the Fisheries Commission, it is not necessary, in order to obtain the fish most adapted for food, to despatch large smacks or fishing vessels, victualled and equipped for a cruise of several months, to fishing grounds distant hundreds of miles from home. The coast of the Colony presents many natural features peculiarly favourable to the existence of a very large supply of the best food fishes. In the quiet waters of its numerous bays and estuaries, and in the vast lakes and lagoons communicating with the sea, are found shelter and sustenance, as well as excellent breeding-grounds. The principal fishes found on the coast are not migratory, and as a consequence may nearly always be procured in the markets. Amongst the best known may be mentioned the following:—

Fishing industry neglected.

The schnapper *(Pagrus unicolor)*, the most valuable of all Australian fishes, is found along the whole extent of the coast, and is very abundant. It is a deep-water fish, found generally near rocky points or reefs running out into the sea. The schnappers "school," as it is termed, during the summer months, and are then most plentiful. The young fish, known as red bream, frequents the harbours and estuaries of the coast, but is never found in shallow water. The schnapper is caught by the hook, which it takes freely, as it will attack almost any bait. It sometimes attains a very large size, weighing as much as 30 lb.

The schnapper

The nannigai is a deep-water fish, caught with the hook, and ranks high in public estimation as an edible fish. The supply is not large, as the fish is not specially sought after, being chiefly obtained by fishermen in search of schnapper.

The black rock-cod is considered one of the best of Australian fish, and is also a deep-water fish, never captured by the net. It is found more abundantly in the warmer waters of the north of the Colony, where, as a rule, it attains larger proportions than to the southward of Sydney. It grows to a great size, specimens from 35 to 40 lb. being not uncommon.

Rock-cod.

A fish of great size and beauty, known in Australia as the salmon, is found off the coast in prodigious quantities. It has no affinity whatever to the true salmon, and is inferior as an article of food.

The flathead, a fine fish, of which there are several varieties, is captured both by the hook and net. It is of excellent quality and ranks high amongst New South Wales fishes.

Whitings. There are four species of whitings found in these waters. The common sand-whiting and the trumpeter-whiting are both very abundant, but the other two species are more rare. The sand-whiting is perhaps the fish most in demand in the metropolitan markets, where it is to be obtained all the year round.

The jew-fish is the largest edible fish found on the New South Wales coast, attaining sometimes a length of 5 feet. It is found at all seasons, but most frequently during summer. The teraglin is of the same family as the jew-fish, though it does not reach an equal size. The air bladder is large and of excellent quality, being of great value for the making of isinglass.

The mackerel is obtained in enormous quantities off the coast, and sometimes even in the harbours. It is a good fish when eaten fresh, but it decomposes rapidly.

Mullets. The family of *Mugilidæ*, or mullets, is well represented in Australian waters. The sea mullet is a large fish, often attaining a length of 2 feet, and a weight of 8 lb. It is regarded by some authorities as unsurpassed in richness and delicacy of flavour by any fish in the world; and it visits these shores in countless numbers in the season when it is in the best condition. While young the fish keeps entirely to the creeks and lakes, where it increases in size very rapidly, but when full-grown it seeks the open waters.

Gar-fish. There are four species of gar-fish found on the New South Wales coast. The Sydney gar-fish is very abundant, especially towards the end of summer, making its appearance in shoals, sometimes of enormous size. The river gar-fish is even of better quality than the last mentioned, but is not so plentiful as formerly. The other species are seldom met with. There are numerous other varieties of fishes found in the waters of New South Wales, many of which are very valuable as articles of food, but which are for the most part neither so numerous nor so easily obtained as those referred to.

Destructive fishes.

Destructive fishes are by no means rare; the shark family being largely represented, not only in the deep-sea, off the coast, but even in the harbours. The shark is not, however, absolutely valueless. The fins find a ready sale in the Chinese markets; the skin also has some commercial value, while from the liver is extracted a large quantity of valuable oil, equal in every respect to cod-liver oil.

Neglect of fisheries.

As already pointed out, the fisheries of New South Wales have been much neglected, and, as a further instance of this, it may be mentioned that although during the winter season immense shoals of herrings visit these coasts, no attempt is made to take and preserve them. The Rev. J. E. Tenison-Woods, the Hon. W. Macleay, and the members of the Fisheries Commission, have strongly directed attention to the value of this fish. It is quite as abundant as the herring of Scotland, and superior in flavour; and, preserved like sardines, it would no doubt rival that delicacy. There is ample evidence that the application of a little capital, and intelligent management, would make the herring fishery a very profitable industry.

Fresh-water fish

In Sydney the supply of fresh-water fish is very limited, although the rivers of the Colony produce some most excellent specimens. The rivers Murray, Murrumbidgee, Lachlan, and Darling are the most plentifully stocked, the Murray cod *(Oligorus Mitchelli)* being perhaps the most highly esteemed of their fishes. Another fish of the same species is the *(Oligcrus Macquariensis)*, which is to be met with in the upper branches of the Clarence. Both these specimens of Murray cod have been found weighing as much as

100 lb. The silver perch and several kinds of the Percidæ family, so highly prized for their delicacy, are plentiful in the rivers. In the Richmond River the cat-fish *(Copidoglanis Tandanus)* is very common, whilst herrings and mullet are caught in almost all the eastern rivers of the Colony.

Fish acclimatization.

No systematic attempt has yet been made to acclimatize European varieties of edible fishes, although success would most probably attend any efforts in this direction, every difficulty having been overcome in Victoria, New Zealand, and Tasmania.

Shell-fish.

Among the Crustaceæ, which abound on the coast and in the water-courses of the interior, the lobster and several varieties of salt and fresh-water crayfish are most noticeable.

Oysters.

Oysters are excellent and very plentiful. The oyster-beds of Port Jackson, however, have been greatly injured, and the markets of the metropolis are supplied from Port Stephens, Broken Bay, the Clarence, and other ports on the coast. Before the appointment of the Royal Commission of Fisheries, in 1880, these molluscs were threatened with extinction in the near future; but the Government has now issued regulations for the conduct of this industry, with a view to prevent the wholesale destruction which was formerly carried on. There is but little doubt that the establishment of "parcs" like those which may be seen along the coasts of France and Belgium, where oyster culture is conducted on the most scientific principles, would be remunerative, as the demand for this delicacy is great and continually increasing.

Oyster culture.

REPTILES.

The snake and lizard families number many varieties, which are distributed over all parts of the country. These reptiles, however, have generally disappeared from the settled portions of the Colony, having been deprived of the means of subsistence which the condition of the country in its natural state afforded them. Several species of snakes are venomous, particularly the death-adder, the black snake, the brown, and the tiger snake, but accidents due to snake bite are now of rare occurrence. Most reptiles retreat at the approach of man, and there is comparatively little danger to be apprehended from their presence. Lizards are common, very beautifully marked, and some species, particularly the iguanas, attain a considerable size.

Venemous snakes.

Although the rivers of the neighbouring Colony of Queensland are the abode of several species of alligators, the rivers of New South Wales are entirely free from the presence of these dangerous saurians.

Shipping of Australasian Colonies, Inwards and Outwards.

Colony.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales	2,237,981	2,459,504	2,540,724	2,432,779	2,786,500	3,296,635	4,006,237	4,660,958	4,133,077	4,258,604	4,322,758
Victoria	1,874,985	1,913,427	1,940,222	2,179,899	2,411,902	2,690,884	2,964,331	3,151,587	3,260,158	3,735,387	3,858,243
South Australia	672,776	906,273	932,891	1,200,904	1,269,491	1,337,218	1,504,765	1,834,532	1,807,042	1,558,476	1,677,883
Queensland	956,844	1,066,758	1,256,394	1,255,576	1,553,808	1,880,591	882,491	1,152,112	1,029,181	1,120,479	924,232
Western Australia	151,133	162,753	170,037	250,429	285,046	344,247	389,102	442,886	468,035	497,508	464,637
Tasmania	319,517	315,854	381,895	413,303	383,762	417,418	471,122	614,198	677,806	692,429	735,299
New Zealand	789,177	884,983	949,692	819,716	833,621	899,836	1,002,491	1,063,430	1,032,700	990,953	983,337
Total	7,002,413	7,709,552	8,171,855	8,552,606	9,504,130	10,866,859	11,220,539	12,919,703	12,397,099	12,853,786	12,966,389

Previous to 1883, in the Queensland returns, vessels were entered for every port in the Colony at which they call.

Trade of Colony in British hands.

The trade of the Colony is, to a very large extent, in British hands, though there has been a noticeable increase in foreign shipping since 1881. In 1872, the British shipping entered and cleared amounted to 1,400,672 tons, while in 1887 it was 3,836,527 tons, showing an increase during fifteen years of 2,435,855 tons. The foreign shipping amounted to 187,368 tons in 1872, and 486,231 in 1887, being an increase of 298,863 tons.

French and German mail steamers.

The advent of the French line of Messageries Maritimes, and of the German Lloyd's steamships, has tended to increase the amount of the foreign trade of the Colony; but notwithstanding this, the tonnage under the British flag was in 1887 not less than 88·8 per cent. of the whole. The annexed table shows the respective amounts of each class since 1872.

British and Foreign Vessels Entered and Cleared in New South Wales.

Year.	British.	Foreign.	Total.
	Tons.	Tons.	Tons.
1872	1,400.672	187,368	1,588,040
1873	1,619,019	143,459	1,762,478
1874	1,820,146	170,748	1,990,894
1875	2,001,641	166,546	2,168,187
1876	1,968,899	158,826	2,127,725
1877	2,023,656	214,325	2,237,981
1878	2,202,044	257,460	2,459,504
1879	2,294,764	245,960	2,540,724
1880	2,259,924	172,855	2,432,779
1881	2,563,999	222,501	2,786,500
1882	2,977,756	318,909	3,296,665
1883	3,532,955	473,282	4,006,237
1884	4,185,549	475,409	4,660,958
1885	3.615,582	517,495	4,133,077
1886	3,746,725	511,879	4,258,604
1887	3,836,527	486,231	4,322,758

Larger portion of tonnage owned in colonies.

Of the total tonnage set down as British, the larger portion is owned in the colonies. In 1876 out of 1,968,899 tons of shipping entered and cleared, 1,293,813 tons were colonial, or 66 per cent.; in 1881, out of 2,563,999 tons of British owned shipping entered and cleared, 1,543,431 tons, or 60 per cent., represented colonial shipping; while in 1887, the colonial shipping amounted to 2,237,336 tons, out of a total of 3,836,527 tons, or 58 per cent.

British shipping.

The amount of British and British-colonial shipping entered and cleared from New South Wales ports during each year since 1876 is shown below.

Tonnage of British Vessels trading to New South Wales.

Year.	Shipping belonging to Great Britain.	Shipping belonging to British possessions.	Total, inwards and outwards.
	Tons.	Tons.	Tons.
1876	675,644	1,293,813	1,968,899
1877	690,348	1,332,380	2,023,656
1878	816,255	1,387,236	2,202,044
1879	810,815	1,481,918	2,294,764
1880	760,688	1,499,236	2,259,924
1881	1,020,568	1,543,431	2,563,999
1882	1,301,347	1,676,409	2,977,756
1883	1,429,725	2,103,230	3,532,955
1884	1,716,255	2,469,294	4,185,549
1885	1,520,091	2,095,491	3,615,582
1886	1,503,921	2,242,804	3,746,725
1887	1,599,191	2,237,336	3,836,527

Tonnage of foreign vessels.

Compared with the figures just given, the tonnage of the foreign vessels trading with New South Wales will appear very small. Taking the year 1887, for which year the inward and outward tonnage for the principal nationalities are given below, France stands first, a position which she assumed in 1883. After France comes Germany, whose tonnage reached its present proportion in 1882. America follows at a considerable distance from Germany. Her tonnage is less now than it was in 1876, though at one time she threatened to be a formidable rival of Great Britain for the carrying trade of the Colony. Sweden and Norway is the only other nation whose carrying trade with the Colony is important.

Foreign vessels Entered and Cleared in New South Wales during 1887 :—

	Tonnage.
France	165,858
Germany	135,643
America	94,998
Norway and Sweden	70,441
Austria	4,722
Other nations	14,569
Total	486,231

Steam and sailing tonnage.

The records prior to the year 1876 do not distinguish the steam from the sailing vessels, but the modern tendency to supersede sailing vessels by steam is abundantly apparent even in the ten years which have since elapsed. In 1876, the steam tonnage was 912,554 as compared with 1,215,171 tons of sailing vessels, being 57 per cent. of sailing, and 43 per cent. of steam tonnage; in 1887, the relative positions were considerably changed, for the tonnage of sailing vessels had slightly decreased, being only 1,177,210 tons, or 27 per cent., as against 3,145,548 tons of steam, or 73 per cent. of the whole shipping. The net increase of steam tonnage for the eleven years has therefore been rather more than 245 per cent. The tonnage of each class during the various years was as under :—

Steam and Sailing Vessels Entered and Cleared.

Year.	Steam.	Sailing.	Year.	Steam.	Sailing.
	Tons.	Tons.		Tons.	Tons.
1876	912,554	1,215,171	1882	1,996,663	1,300,002
1877	1,007,679	1,230,302	1883	2,702,196	1,304,041
1878	1,105,200	1,354,304	1884	3,373,710	1,287,248
1879	1,231,423	1,309,301	1885	2,791,843	1,341,234
1880	1,550,372	882,407	1886	2,982,122	1,276,482
1881	1,758,304	1,028,196	1887	3,145,548	1,177,210

Tonnage arriving in ballast.

The advantage offered by the New South Wales trade to shipowners is illustrated by the large amount of tonnage coming to the Colony in ballast, and the small amount leaving without cargo. A large proportion of the vessels arriving in ballast come from the ports of the neighbouring colonies, having delivered a general cargo there, and, being unable to obtain return freight, go to Newcastle for a cargo of coal. The largest amount of tonnage in any one year since 1876 entered in ballast was in 1887, when it reached 507,177 tons, and the largest cleared was 60,457 tons in the year 1884. The tonnage entered and cleared for each year is given below.

Tonnage Entered and Cleared in Ballast.

Year.	Entered	Cleared.	Year.	Entered.	Cleared.
	Tons.	Tons.		Tons.	Tons.
1876	262,953	17,859	1882	325,480	23,338
1877	295,569	8,393	1883	384,645	27,855
1878	354,917	13,115	1884	395,990	60,457
1879	337,696	19,892	1885	345,366	53,381
1880	217,763	16,219	1886	353,969	40,635
1881	271,343	5,179	1887	507,177	36,434

Value of imports per ton high.

Notwithstanding the fact that from one-fourth to one-sixth of the tonnage arriving in the Colony is in ballast, as against one-sixtieth of the clearances, the average value of freights inward is higher than of those outward. Thus in 1887 the average value of the cargoes imported was £8 15s. 7d. per ton of vessels inward, or, if an allowance be made for ships in ballast, the value per ton was £11 10s. The mean value of goods exported per ton of shipping outward was £8 9s. 8d., and allowing for vessels leaving in ballast, £8 12s. 6d.; in the former case 3·5 per cent. lower, and in the latter 25 per cent. than the value of tonnage imported.

Value of exports per ton.

New South Wales exports have, generally speaking, a high value per ton, and the lower value of the exports per ton than the imports is almost entirely due to the large amount of coal exported, the quantity for 1887 being 1,790,442 tons weight, or 700,000 tons measurement, out of a total of 2,180,301 tons. The value of the exports of the Colony per ton exceeds that of the imports in the case of Great Britain alone. In every other case, as will be seen from the following statement, the import value per ton is much higher than the export.

Value per Ton Measurement of Imports and Exports of New South Wales.

Country.	Value of imports per ton.	Value of exports per ton.
	£ s. d.	£ s. d.
Great Britain	22 4 2	28 13 7
Victoria	3 13 11	2 2 11
South Australia	4 5 0	1 14 2
Tasmania	9 5 6	2 11 2
New Zealand	6 3 10	2 2 2
Queensland	11 6 4	7 9 5
Other British possessions	4 5 5	2 17 1
United States	10 15 10	3 19 10
Other Foreign countries	6 2 7	3 16 10

Trade with v
ous countrie
compared

Having regard merely to the tonnage, the trade of the Colony with Victoria is larger than with any other country, Great Britain not excepted, though it will be presently seen that in respect to value the latter country stands first. After Victoria and Great Britain, come Queensland, New Zealand, South Australia, and Tasmania, in the order named. Of foreign countries, the United States stand first, France and her dependencies being the most important of the other countries. The tonnage of vessels arriving from Great Britain during 1887 amounted to only 22·02 per cent. of the total tonnage inwards, though the value of freight carried amounted to not less than 49·99 per cent. of the imports. The tonnage arriving from the various Australian Colonies was 57·07 per cent. of the whole, with a value, however, of only 36·55 per cent. From the other possessions of Great Britain there was an import tonnage equal to 7·87 per cent., valued at 3·43 per cent. of the total imports. The United States and other foreign countries gave a little more than 13·04 per cent. of the tonnage inward, valued at slightly more than 10 per cent.

Tonnage of
exports to
Great Britai

Of the tonnage of New South Wales exports, Great Britain took only 11·33 per cent., though in value the exports were 52·41 per cent. of the total. The exports by sea to Victoria and the other Australasian Colonies, amounted to 55·44 per cent. of the

Value of British commerce.

whole, while in value they reached only 28·16 per cent. As regards the other British possessions, the tonnage of vessels carrying goods from New South Wales to their ports amounted to 8·92 per cent. of the whole, but the value reached only 4·10 per cent. Similarly with the United States and other foreign countries, though the tonnage reached 10·92 and 13·39 per cent., the value was but 7·03 and 8·30 per cent. respectively. The following table shows the tonnage inward and outward from Great Britain and the Colonies, and to the United States, as well as the value of the cargoes; but it must be borne in mind that the tonnage figures represent the nominal tonnage of the vessels carrying the goods, and not the actual weight of the goods themselves, which latter information it is impossible to obtain.

Tonnage of Vessels and Value of Cargoes during 1887.

Country.	Inwards.				Outwards.			
	Tonnage.		Value.		Tonnage.		Value.	
	Total.	Per cent.	Total.	Per cent.	Total.	Per cent.	Total.	Per cent.
			£				£	
Great Britain ..	360,171	22·02	7,998,568	49·99	242,891	11·33	6,966,056	52·41
Victoria........	399,662	24·44	1,476,469	9·22	630,025	29·39	1,352,561	10·18
South Australia	128,614	7·86	546,520	3·42	132,955	6·20	227,276	1·71
Tasmania	63,307	3·87	587,315	3·67	51,342	2·40	131,477	1·00
New Zealand ..	122,239	7·48	757,076	4·73	142,705	6·65	300,937	2·26
Queensland	219,373	13·42	2,482,622	15·51	231,526	10·80	1,729,639	13·01
Other British possessions.	128,763	7·87	549,805	3·43	191,249	8·92	545,709	4·10
United States ..	64,219	3·93	693,420	4·33	234,172	10 92	934,443	7·03
Other foreign countries.	148,932	9·11	912,949	5·70	287,002	13·39	1,102,198	8·30
Total	1,635,280	100·00	16,004,744	100 00	2,143,867	100·00	13,290,256	100 00

Average tonnage of vessels trading with N. S. Wales.

The average tonnage of vessels trading with the Colony has gradually increased since 1845; previously to that year transports formed so large a portion of the total tonnage as to swell the average considerably. The average tonnage per ship at each decennial period since 1825 was as follows :—

Year.	Average tonnage of vessels.
1825	295
1835	246
1845	173
1855	306
1865	329
1875	463
1885	797
1887	761

Tonnage of British, Fore and Colonial vessels.

The tonnage for the years since 1876 has been separated into British, Foreign, and Colonial, and the average for each year will be found below. It will be seen that during this period the average tonnage of British vessels trading here has increased 84 per cent., and foreign vessels 87 per cent., and colonial about 44 per cent.

Year.	Average tonnage of vessels.			Year.	Average tonnage of vessels.		
	British.	Foreign.	Colonial.		British.	Foreign.	Colonial.
	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.
1876	746	592	382	1882	1,067	787	533
1877	881	689	376	1883	1,060	982	594
1878	796	706	406	1884	1,146	973	611
1879	805	701	433	1885	1,312	997	602
1880	1,031	732	476	1886	1,329	986	600
1881	1,105	780	498	1887	1,385	1,108	549

Decrease in hands requir per ton.

The natural corollary to the increase in the size of ships is the decrease in the number of hands required per ton, though the actual number of hands employed per vessel has increased. Intercolonial vessels carry an average of 22 men to every vessel, or

rage crews
ied.

1 man to every 25 tons. British vessels carried in 1887 an average complement of 48 men, or 1 man to every 28·8 tons, while foreign ships carried an average crew of 49 men, or 1 man to every 23 tons. In 1876 British ships carried 1 man to every 25 tons, intercolonial vessels 1 man to every 22½ tons, and foreign vessels 1 man to 35 tons, the decrease in the tonnage per sailor in foreign vessels being due to the finer class of ships that began to trade here in 1883, which are fitted in the most modern fashion, and manned accordingly.

Year.	Average crews of vessels.			Year.	Average crews of vessels.		
	British.	Foreign.	Colonial.		British.	Foreign.	Colonial.
1876	30	17	17	1882	35	18	22
1877	33	21	18	1883	37	38	24
1878	28	20	18	1884	41	36	25
1879	30	23	19	1885	44	36	24
1880	44	25	21	1886	45	39	23
1881	40	23	22	1887	48	49	22

mparison of
stralian ports.

The relative importance of the various ports of Australia may be ascertained by an inspection of the following table, from which the rank of Sydney becomes evident. Melbourne takes the first place; but, as hereafter pointed out, its trade, for purposes of comparison, should be reduced by a considerable tonnage, representing the larger ocean steamers, whose terminal port is Sydney, making it merely a port of call. Newcastle comes next after Sydney, exceeding in tonnage even Brisbane. It should be noted in respect to Queensland ports, that the tonnage of vessels is recorded at every port of call, and on this account the towns north of Brisbane also appear more important than they really are.

Tonnage Entered and Cleared at principal Australasian Ports.

Port.	Entered.	Cleared.
	Tons.	Tons.
Sydney	1,483,045	1,303,488
Newcastle	566,702	780,586
Melbourne	1,513,564	1,486,378
Brisbane	424,235	421,898
Rockhampton	223,565	192,464
Townsville	252,535	216,233
Auckland	157,379	129,879
Wellington	117,301	88,635
Lyttelton	47,164	88,942
Dunedin	59,230	29,475
Hobart	207,386	198,395
Launceston	95,796	101,507
Port Adelaide	629,682	567,553
Glenelg	121,882	120,679

Tonnage entered at Sydney exceeds clearances.

The progress of the shipping trade of Sydney has been very uniform, increasing at an average rate of 8·08 per cent. per annum. The vessels registered as entering the port of Sydney, as a rule, considerably exceed in tonnage those clearing. To account for this difference it is only necessary to state that vessels leaving Sydney for Newcastle for the purpose of shipping coal are reckoned as departures from Newcastle, and not from Sydney. For this reason, the clearances of Newcastle uniformly exceed the arrivals, as will be noticed in the subsequent table. The practice of clearing vessels at both ports at one time obtained, but has been abandoned for some years, and vessels are now cleared at the port which they last leave.

Tonnage of Vessels Entered and Cleared at Sydney and Newcastle.

Year.	Sydney.		Newcastle.	
	Entered.	Cleared.	Entered.	Cleared.
	Tons.	Tons.	Tons.	Tons.
1871	409,063	394,289	277,959	376,378
1872	418,164	360,735	342,514	427,845
1873	474,203	367,351	389,121	498,468
1874	499,326	422,693	510,291	543,693
1875	590,700	468,423	510,902	573,626
1876	635,269	502,866	433,423	535,738
1877	662,217	511,623	469,349	577,676
1878	712,303	511,801	542,745	665,885
1879	759,980	581,694	492,163	651,501
1880	827,738	641,996	400,598	516,480
1881	955,531	655,161	481,695	645,543
1882	1,101,756	844,677	559,228	737,772
1883	1,260,595	1,115,411	656,916	926,956
1884	1,554,118	1,277,843	708,449	1,066,462
1885	1,608,169	1,283,888	452,946	722,865
1886	1,638,802	1,399,545	416,518	686,179
1887	1,483,045	1,303,488	566,702	780,588

Trade of Sydney compared with British ports.

The comparative importance of the trade of Sydney may be seen from viewing it in connection with the trade of the chief cities of Great Britain. It will be observed that in absolute tonnage Sydney was surpassed by five English ports—London, Liverpool, Cardiff, Newcastle, and Hull; though in point of value, the trade of Sydney exceeded that of any port in Great Britain, London and Liverpool alone excepted. Thirteen of the most important ports of Great Britain and Ireland are shown in the following table. The figures are for 1886 for British ports, and for 1887 for Sydney.

Tonnage of principal Ports of Great Britain and of Sydney.

Port.	Inwards.	Outwards.
	Tons.	Tons.
London	6,810,647	5,215,984
Liverpool	5,017,815	4,714,654
Cardiff	2,393,786	4,174,950
Newcastle (England)	1,866,349	3,207,977
Hull	1,673,783	1,324,585
Sydney	1,483,045	1,303,488
Glasgow	913,037	1,369,622
Newport	885,331	1,279,131
Southampton	841,032	752,050
Sunderland	707,977	891,899
Swansea	541,295	726,511
Dover	587,620	578,305
Bristol	497,366	247,471
Dublin	217,100	68,907

Sydney chief shipping port.

Sydney is not only the metropolis, but the chief shipping port of the Colony, its trade being larger than that of any city in the southern hemisphere. The nominal trade of Melbourne appears larger, but as that city is a place of call for various lines of steamers, whose terminal port, and the destination of the greater part of whose cargo, is Sydney, the shipping trade of Melbourne is unduly swollen, and its relative importance compared with Sydney appears greater than really is the case. Newcastle ranks second amongst New South Wales ports, and for many years previous to 1880 its trade was greater than that of even Sydney itself. Since the year named, however, the tonnage both entered and cleared at Sydney has exceeded that of Newcastle. No other seaport can be compared with either of these ports, though for some time Wollongong has maintained a considerable trade, especially in coal; and of late years the importance of Grafton, on the Clarence River, has steadily increased.

Murray and Darling trade

The statistics of the trade of the Murray and Darling River ports were available for the first time in 1886, during which year the foreign trade was by no means inconsiderable. During 1887 the rivers were very favourable for navigation, and the returns

Riverine trade.

consequently show a considerable advance. The figures relating to Wentworth for the most part represent Darling trade, while the others refer to the Murray River; and the tonnage has been credited to the first port of call for vessels inward, and to the last port for vessels outward, bound.

Trade at Riverine ports.

Port.	1886.		1887.	
	Inwards.	Outwards.	Inwards.	Outwards.
	Tons.	Tons.	Tons.	Tons.
Wentworth	25,366	26,174	35,392	35,392
Moama	17,432	200	30,328	356
Swan Hill	*	8,792	*	15,630
Tocumwal	*	696	142	1,400
Total	42,798	35,862	65,862	52,778

* Included in Moama.

Number of vessels registered.

During the year 1887, 1,007 steamers and sailing vessels, representing 112,272 tons net, stood registered in the books of the Custom House, as belonging to the port of Sydney. Of these, 432 were steamers, collectively of 47,989 tons net and of 17,432 nominal horse-power. There were 68 sailing vessels registered at Newcastle (11,601 tons net), and 53 steamers of 1,067 combined horse-power, and 4,671 net tons.

Value of tonnage registered in New South Wales.

Part of the tonnage registered is that of vessels built in the Colony. The remainder may be fairly taken as a direct addition to the colonial fleet, and classed among the imports of the Colony. The value of this import may be gathered from the figures given below. In estimating the value of the vessels imported, approximate figures can alone be given. The value per ton of the British mercantile fleet averages about £30 for steamers and £15 for sailing vessels, but in this Colony the figures would be somewhat lower, and for the purpose of the estimate which follows, the average value of steam tonnage has been taken at £25, and sailing vessels at £12 10s.

Foreign Tonnage Registered in New South Wales.

Year.	Sailing.	Steam.	Value.	Year.	Sailing.	Steam.	Value.
	Tons.	Tons.	£		Tons.	Tons.	£
1876	7,457	1,598	133,162	1882	12,788	4,488	272,050
1877	4,469	2,616	121,262	1883	8,681	4,038	209,462
1878	5,329	3,732	159,912	1884	8,332	6,339	262,625
1879	4,332	2,764	123,250	1885	4,076	3,395	135,825
1880	5,065	1,298	95,762	1886	4,630	852	79,175
1881	9,558	1,948	168,175	1887	8,502	9,525	356,900

Import of vessels.

No reliable data have as yet been procurable as to the number and tonnage of vessels built abroad for the New South Wales local trade, but that number must be considerable, and forms an import of large value altogether lost sight of in the Customs returns. Some idea, however, of the large number of vessels imported may be gathered from the tonnage registered, which will be found in the preceding table. The total tonnage registered was:

Vessels Registered in New South Wales.

Year.	Sailing vessels.			Steamers.			Total.	Total tons.	Total men.
	No.	Tons.	Men.	No.	Tons.	Men.			
1876	64	9,523	377	31	2,997	193	95	12,520	570
1877	67	6,464	333	36	5,131	262	103	11,595	595
1878	55	7,111	319	41	5,392	278	96	12,503	597
1879	54	5,870	281	36	3,561	291	90	9,431	572
1880	54	7,003	325	20	2,159	168	74	9,162	493
1881	51	10,300	328	23	2,713	115	74	13,013	443
1882	87	14,246	511	41	7,764	509	128	22,010	1,020
1883	83	10,566	420	72	9,406	575	155	19,972	995
1884	77	10,850	507	84	11,484	707	161	22,334	1,214
1885	49	4,876	280	50	6,387	394	99	11,263	674
1886	45	5,969	166	47	3,489	235	92	9,458	401
1887	39	9,138	258	36	10,303	603	75	19,441	861

Shipbuilding record.

The building of steam vessels has become of more importance than that of sailing ships, the tonnage during the last six years being respectively, 20,196 of steam tonnage, and 8,627 tons of sailing. Schooners and ketches are the principal classes of sailing vessels built in the Colony, the general tonnage of each class averaging considerably under 100 tons burden. The general tendency to supplant sailing vessels by steamers, and the substitution of iron for wood for the frames and hulls of vessels, have given a check to the wooden ship-building industry, which at one time promised to grow to important dimensions. Every kind of timber suitable for the construction of ships is found on the rivers of the coast districts of the Colony, but, as the demand for this description of vessel has not increased, little advantage can be taken of our resources in this respect.

The years 1883 and 1884 were marked by great activity in the construction both of sailing and steam vessels, 50 sailing and 52 steam vessels, valued at about £157,762, having been built in 1883, whilst 39 sailing vessels and 64 steamers, valued at £160,100, were built in the subsequent year. Trade has not been so active since, though in 1886 the value of steamers built was £66,000, and of sailing vessels £16,700, or £82,700 value in all; in 1887 the industry had fallen lower than in any of the years shown in the following table, the value of sailing vessels built being only £7,950, and of steamers £19,450, in all £27,400. The number of vessels built during each year since 1876 is given below.

Vessels Built in New South Wales.

Year.	Sailing vessels.		Steamers.		Total vessels.	Total tonnage.
	No.	Tons.	No.	Tons.		
1876	38	2,066	22	1,399	60	3,465
1877	34	1,995	27	2,515	61	4,510
1878	23	1,782	26	1,660	49	3,442
1879	31	1,538	19	797	50	2,335
1880	29	1,938	12	861	41	2,799
1881	14	742	15	765	29	1,507
1882	41	1,458	24	3,276	65	4,734
1883	50	1,885	52	5,368	102	7,253
1884	39	2,518	64	5,145	103	7,663
1885	29	800	36	2,992	65	3,792
1886	27	1,330	40	2,637	67	3,976
1887	14	636	16	778	30	1,414

Dock accommodation in Sydney.

The accommodation provided both by the Government and by private enterprise for the fitting and repairing of ships, is equal to the requirements of the trade of the Colony. At Sydney there are three graving docks, four floating docks, and six patent slips. At Newcastle there is one patent slip, besides which there are other docking and building yards in different parts of the Colony for the convenience of coasters and small craft. The principal docks and slips in Sydney, as well as their leading dimensions and size of vessel they will carry, are shown in the following table.

Docks and Slips in Sydney Harbour.

Name of Dock.	Where situated.	Length of Keel.	Breadth	Draught of vessel taken.	Lifting power of patent slip or dock.
Graving docks—		ft.	ft.	ft. in.	tons.
Fitzroy (Government)..	Cockatoo Island ...	475	59	20 6	...
Biloela " ...	" ...	635	84	32 0	...
Mort's	Balmain	410	68	20 0	...
Floating docks—					
Anderson's	Johnston's Bay ...	100	23	7 0	150
Anderson and Goodall	Johnston's Bay ...	320	57	27 0	1,400
Rountree's	Waterview Bay ...	164	42	12 0	600
Atlas Company's*	Woolwich	300	73	25 0	2,000
Patent slips—					
A.S.N. Company's	Pyrmont	430	37	...	1,500
Bayle's	Balmain	...	...	...	...
Davy and Sands'.........	Pyrmont	180	...	...	600
Mort's No. 1	Balmain	250	...	...	1,500
" " 2	"	200	...	...	1,000
" " 3	"	...	...	...	40

* Pontoon Depositing Dock.

New graving dock.

All the necessary tools and appliances for the repairing of ships are found in the dockyards. The new graving dock now being completed by the Government will be the largest single dock in the world, and capable of receiving vessels drawing 32 feet of water. For natural facilities for shipping Sydney stands unrivalled. The water deepens abruptly from the shores, so that the largest vessels may be berthed alongside the wharves and quays. The wharfage is chiefly in private hands, and powerful shipping appliances and roomy stores are found at all the important wharves. The Government still holds the shores of Sydney Cove, along the margin of which magnificent echelon wharves have been constructed. The south and west side of Darling Harbour also belongs to the Government, and the railway has been carried to the water's edge. The total wharf frontage amounts to about 6 miles.

Equipment of the Port of Newcastle.

Newcastle is also a well-equipped port, where vessels of 4,000 tons can be safely berthed; and every modern steam and hydraulic appliance for loading coal is found on its wharves. The Government owns nearly all the wharfage, which extends over a length of about 15,000 feet. The Government shipping appliances include seven steam cranes of 15 tons, and twelve hydraulic cranes, two of 25 tons, six of 15 tons, and four of 9 tons, as well as a number of shoots. There are also two slips owned by private individuals, capable of taking up vessels of 300 and 1,200 tons respectively. Private wharves are found at all the chief centres of population along the rivers of the Colony, as well as Government wharves; and all ports with a trade of any importance have also their jetties and shipping facilities.

Private wharves.

The coast of New South Wales is free from any source of danger to vessels navigating it, and where reasonable precautions were taken wrecks have been very rare. The majority of losses have been amongst vessels under 100 tons burthen. The number of wrecks and loss of life and property during 1886 was very high, amounting to twenty-three vessels, with a total tonnage of 5,401, valued at £419,180, including cargo, and involving a considerable loss of life. This, perhaps, was the most disastrous record ever experienced in the New South Wales seas. There were thirteen vessels wrecked during 1887, involving a loss of two lives, and the destruction of property to the extent of £35,450. The principal disasters were the loss of the barque Centurion, which was stranded, and became a total wreck on the north head of Port Jackson while

Vessels wrecked during 1886.

attempting to go to sea in tow of a steam tug during heavy weather; and the Waratah steam collier, lost through the vessel's moorings parting while she was loading coal at the Bulli jetty. The following statement shows the number of vessels, registered in various ports of Australia, Tasmania, and New Zealand, which were lost on the coast of New South Wales during the years 1880–87.

Losses since 1880.

Vessels Wrecked off New South Wales.

Year.	Under 50 tons.	50 to 100.	100 to 200.	200 to 300.	300 to 400.	400 to 500.	Over 500 tons.	Total.
1880	7	2	3	...	...	...	2	14
1881	6	1	1	3	1	...	1	13
1882	5	4	2	1	1	1	1	15
1883	2	6	3	1	...	...	...	12
1884	6	3	1	...	...	...	1	11
1885	3	4	1	1	1	...	1	11
1886	6	5	7	1	1	...	3	23
1887	4	5	2	1	...	...	1	13

IMPORTS AND EXPORTS.

The value of goods imported into, and exported from, New South Wales, has increased during the sixty-two years over which the records extend, from £400,000 in 1825 to £40,487,568 in 1885, and £37,303,153 in 1887. The yearly values have been somewhat uncertain in their increase, the imports from 1840 to 1852 being especially erratic; but of late years the progress of the Colony, as evidenced by its trade, has been remarkably steady. The gross value from year to year of the exports, for the reasons hereafter pointed out, forms the surest index of the progress of a country circumstanced like New South Wales, and the result of a rise or fall in the value of the staple commodities, or of a depression in production, may be readily traced in the corresponding rise or fall in the export values. The amount of the trade of the Colony, in decennial periods since 1825, is given below.

Exports an index of production.

Imports and Exports of New South Wales.

Year.	Imports.	Exports.	Total Trade.
	£	£	£
1825	300,000	100,000	400,000
1835	1,114,805	682,193	1,796,998
1845	1,233,854	1,555,986	2,789,840
1855	4,668,519	2,884,130	7,552,649
1865	10,635,507	9,563,818	20,199,325
1875	13,735,133	13,797,397	27,532,530
1885	23,737,461	16,750,107	40,487,568
1887	18,806,236	18,496,197	37,303,153

Imports exceed exports.

Influence of loan expenditure on imports.

The imports have, for many years, invariably exceeded the exports. This circumstance is mainly due to the importation of loan money for the development of the natural resources of the country. The extent of this importation, as well as the excess of the imports during each of the last eleven years, is shown in the following table, but the whole question will be found dealt with in the chapter on Finance and Public Wealth.

Excess of Imports compared with Loan expenditure.

Year.	Excess of imports over exports.	Amount expended from loans during the year.
	£	£
1877	1,394,878	995,454
1878	1,970,240	816,317
1879	1,371,895	1,271,705
1880	*1,506,739	1,668,619
1881	1,279,207	2,397,368
1882	3,790,544	2,832,759
1883	1,260,568	3,265,711
1884	4,583,626	3,674,707
1885	6,987,354	3,896,145
1886	5,417,335	3,766,356
1887	309,319	2,136,471
Total for 11 years...	26,858,947	26,721,612

* Excess of exports.

IMPORTS.

During 1887 the gross value of goods imported into the Colony amounted to £18,806,236, or at the rate of £18 7s. 10d. per head, the imports for home consumption were valued at £15,781,680, or £15 8s. 8d. per head of the mean population during the year, thus showing a falling off from the previous year of £3 per head of gross imports, and £3 4s. 8d. per head of net imports. As the imports, generally speaking, represent the money return or value in kind of the exports of the previous season, the falling off is due to a decline in the value of the exports of 1886, owing to the severe depression, which seems to have been general. Part, however, of the decline is attributable to the less amount of loan money expended during 1887 than in the preceding year. The value of the imports, distinguishing the amount required for home consumption, is given in the annexed table for the seventeen years 1871–1887.

Declin
of imp

Value of Imports per Head.

Year.	Imports for home consumption.	Total imports per head.	Year.	Imports for home consumption.	Total imports per head.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1871	17 10 6	21 10 3	1880	15 12 2	19 10 7
1872	13 12 2	18 3 5	1881	18 19 9	23 2 8
1873	15 12 10	20 2 7	1882	22 2 0	27 0 3
1874	17 15 9	21 12 8	1883	21 5 11	25 15 11
1875	19 14 10	23 9 11	1884	22 2 11	26 5 11
1876	19 0 11	22 16 9	1885	21 13 1	25 10 0
1877	19 15 5	23 12 4	1886	18 13 4	21 7 10
1878	19 10 11	22 19 3	1887	15 8 8	18 7 10
1879	17 3 1	21 0 0			

Classification of imports.

For the purpose of more readily understanding the nature of the imports they have been classified under certain leading heads, and during 1887 the value of each class of imports was—

Nature of Principal Imports.	Total Imports.	Imported for home consumption.
	£	£
Food and beverages, including breadstuffs	2,941,839	2,395,236
Wines, fermented and spirituous liquors	978,806	835,570
Live stock..	1,170,633	1,133,212
Animal and vegetable products, including wool	1,764,952	1,293,865
Clothing and textile fabrics..........................	3,446,128	3,105,568
Minerals and metals, raw or partly worked up...	1,422,193	987,287
Coal	21,797	21,604
Specie and precious metals	2,132,734	2,101,955
Articles of education, art, amusement	1,097,936	849,974
Manufactured articles not elsewhere included...	3,793,952	3,051,919
Articles, unclassified by Customs	35,266	5,510
Total value .... £	18,806,236	15,781,640

Rate of imports per head.

During 1887, therefore, the Colony imported food and drink to the value of £3,230,806, or at the rate of £3 3s. 2d. for each inhabitant, and manufactured goods to the amount of £7,007,401, or at the rate of £6 17s. 1d. per head, both together representing £10 0s. 3d. per head, out of a total of £15 8s. 8d. The two principal items of the balance are animal and vegetable products, specie and precious metals. Of the animal and vegetable products, as also of the precious metals, a large portion is worked up in the Colony for its own consumption, but the greater portion of the gold imported is treated at the Mint, and re-exported in the shape of coin. The value per head of some of the principal articles imported is given below.

Value of Imports per Head of the Principal Articles imported for Home Consumption.

Articles.	1876.		1877.		1878.		1879.		1880.		1881.		1882.		1883.		1884.		1885.		1886.		1887.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d
Agricultural implements	0	6	0	11	1	3	1	3	0	9	1	1	1	8	2	6	1	9	1	3	1	0	1	10
*Apparel—wearing	16	1	11	4	17	7	12	3	7	0	8	0	8	5	7	4	18	4	19	7	25	2	21	3
Beer	5	7	6	0	5	4	6	5	4	3	4	0	5	3	6	3	6	9	7	8	7	11	6	7
Butter	1	5	1	1	0	7	0	2	0	2	0	9	2	1	1	11	3	1	2	2	3	0	0	7
Candles	1	8	3	2	2	0	1	10	0	8	1	10	3	0	1	6	3	8	3	2	1	6	0	11
Drapery	59	1	71	4	72	4	62	6	60	8	78	6	91	6	82	10	63	2	64	4	52	4	38	10
Earthenware and glassware	3	4	2	8	3	0	3	8	2	8	3	4	4	3	4	0	4	8	5	2	3	5	1	10
Fish—salt, dried, & preserved	2	0	4	0	6	6	1	9	1	3	2	11	2	7	3	6	3	4	1	10	1	6	1	4
Flour	8	8	8	6	11	1	8	3	9	6	5	0	11	2	7	6	8	4	9	8	12	0	9	8
Fruit	3	5	4	2	3	6	2	7	3	4	5	0	4	8	4	11	5	11	5	3	5	4	4	9
Furniture	2	5	2	10	3	9	2	9	1	8	3	4	4	9	5	2	4	1	4	1	5	1	3	0
Grain and pulse	8	9	9	8	7	7	4	7	4	3	3	4	9	9	4	9	9	1	7	5	8	11	5	8
Hardware	8	8	8	1	11	6	11	11	7	11	11	9	15	6	15	8	13	3	11	5	10	11	6	5
Hay and chaff	1	4	3	0	0	4	0	7	1	7	1	9	3	9	2	11	3	9	2	0	4	4	2	0
Iron and steel	8	2	18	10	18	7	13	2	13	11	13	8	22	10	18	7	18	11	24	0	15	6	14	11
Boots and shoes	7	6	8	11	7	8	10	3	8	5	9	5	12	11	11	3	10	3	11	7	10	3	8	10
Liquors—spirituous	9	0	12	10	10	11	12	0	10	0	12	2	11	8	10	7	12	0	10	4	8	9	7	0
Machinery	4	0	8	0	5	2	5	10	3	9	5	9	7	11	9	11	10	6	8	9	5	7	5	8
Potatoes	3	8	4	0	3	3	2	0	2	6	2	6	4	9	3	8	4	10	4	3	4	9	2	11
Saddlery and harness	2	0	2	1	1	6	1	7	1	4	1	6	1	11	2	0	1	6	1	2	1	0	1	4
Stationery, paper, books, &c.	9	8	15	4	11	0	9	11	8	4	11	1	11	6	9	7	11	3	11	6	10	2	8	0
Sugar	17	8	18	0	21	0	23	4	13	11	17	7	21	2	17	10	19	5	10	9	7	6	7	3
Tea	8	2	11	1	8	11	11	9	11	0	13	2	10	4	6	8	11	3	8	8	5	8	6	11
Timber	2	5	4	1	5	9	6	6	5	0	5	11	11	5	10	6	9	6	11	0	9	3	7	0
Tobacco	1	8	3	6	5	5	1	4	1	1	2	8	3	0	3	2	2	6	2	4	3	3	2	6
Toys and fancy goods	4	0	1	9	2	1	2	0	0	10	1	6	2	11	3	0	2	8	2	6	0	9	1	7
Wine	2	3	3	4	2	9	2	4	0	11	2	0	1	10	2	11	2	5	2	6	1	11	1	7

* The imports of Apparel should be taken in connection with the imports of Drapery.

Scope for manufactures proved by large imports.

The import of drapery stands first in the list of values, and if wearing apparel be added to it, the value of these goods would represent a sum of £3 0s. 1d. per head during 1887, the greatest amount for any one year having been in 1882, when the value imported reached almost £5 for every inhabitant. The value per head of iron and steel, machinery and hardware combined, was £1 6s.; wine and liquors, 15s. 2d.; flour, 9s. 8d.; boots and shoes, 8s. 10d. None of the other values reach such large figures as those mentioned above, though many other articles form individually very important imports. Two things are plain from a consideration of this table—the great purchasing power of the people, and the very large scope that exists for the production of goods which are now imported, and for the extension of manufactures within the Colony. This will, perhaps, be seen more clearly from an inspection of the gross values of some of the principal articles imported during the year 1887, as given in the following table:—

Values of the Principal Imported Articles.

Apparel, wearing	£1,115,075	Jewellery	£97,347
Arms and ammunition	92,415	Leather	62,832
Beer	382,843	Malt	105,422
Boots and shoes	534,205	Matches	41,579
Butter	39,481	Military stores	142,490
Candles	53,551	Milk, condensed	72,361
Chaff and hay	105,526	Musical instruments	70,867
Cement	87,058	Paints, paperhanging, lampware	84,408
Cutlery and grindery	84,472	Paper, books, stationery, etc.	487,661
Drapery	2,297,634	Pickles, sauces, and oilmen's stores	59,486
Drugs and apothecaries' ware	150,123	Potatoes and vegetables	201,134
Fancy goods and toys	119,971	Saddlery and harness and saddlers' ware	78,008
Fish, preserved	97,858	Silver plate and ware	64,583
Flour	684,342	Spirits	481,281
Fruit, bottled, dried, and green	273,128	Sugar	482,855
Furniture and upholstery	181,785	Tea	381,258
Glass and glassware	84,606	Timber	368,514
Grain and pulse	330,883	Tobacco and cigars	193,577
Hardware	364,686	Watches and clocks	84,189
Iron and iron manufactures and machinery	2,232,103	Wine	100,578
Jams and jellies	63,352		

EXPORTS.

New South Wales exports larger than other colonies.

The export trade of New South Wales, like the import, is larger than that of any other Australian colony, both in regard to the total value, and the value per head of population. Compared with the imports generally, the exports, for the reasons which will hereafter appear, fall considerably short; but compared with those of other colonies, the extent of the New South Wales exports of home produce is very satisfactory. Taking the year 1887, the last for which all the figures are available, the export trade of the Australasian Colonies was:—

	£
New South Wales	15,472,361
Victoria	8,502,979
Queensland	6,338,205
South Australia	3,348,561
New Zealand	6,551,081
Tasmania	1,425,457
Western Australia	601,195

Large re-export trade of certain colonies.

There is a defect in the figures, as far, at least, as three of these colonies are concerned. New South Wales, Victoria, and South Australia have each a large re-export trade, especially in raw produce, and it frequently happens that credit is taken for the produce of other colonies in the returns showing the export of home produce. So far as New South Wales is concerned, this over-crediting chiefly takes place in regard to gold received from Queensland for coinage. To what extent the Customs value of home produce is overstated in Victoria and South Australia is not apparent from the returns; but in the case of the first named colony, much of the produce of New South Wales passing through Victoria for transhipment to England is exported as Victorian produce. This is very noticeable in the case of wool, as Port Phillip wool commands a higher price than that of New South Wales. According to the Customs statistics of that colony, the quantity of wool imported during 1886 amounted to 52,196,663 lb., valued at £2,331,599, while the export of wool other than Victorian, amounted to only 17,052,301 lb., valued at £693,310, the difference in value, amounting to over £1,600,000, being credited as Victorian home produce, and the returns overstated to that extent. How far this system obtains in other directions it is impossible to say.

Preponderance of home products in exports.

Dividing the exports of New South Wales into two classes—those which are the produce and manufacture of the Colony, and those imported from other countries,—the preponderance of home produce exported is very marked. The figures for the eleven years that closed with 1887, which are given below, show a large increase in home produce exported, reaching a maximum in 1883, when the value was £16,506,122, falling, however, in the subsequent years, until in 1886 the amount reached only £12,884,200. The figures for 1887, however, show a gain of nearly £2,600,000 over those of the previous year, but are still far short of 1883. This decline is to a great extent due to the fall in the price of wool, and to the losses sustained by reason of the dry season of 1885–6. The exports of produce other than that of the Colony have also shown a decline since 1883, a circumstance to a large extent to be ascribed to the same causes, the decline being very noticeable in the value of wool and tin re-exported.

Home and Foreign Produce Exported.

Year.	Home produce exported.	Foreign produce exported.	Total exports.
	£	£	£
1877	11,036,839	2,421,061	13,457,900
1878	10,885,037	2,249,368	13,134,405
1879	10,820,756	2,311,175	13,131,931
1880	12,837,446	2,845,356	15,682,802
1881	15,153,795	3,154,010	16,307,805
1882	14,168,853	3,508,502	17,677,355
1883	16,506,122	3,756,151	20,262,273
1884	14,921,520	3,655,770	18,577,290
1885	13,166,243	3,583,864	16,750,107
1886	12,884,200	2,672,013	15,556,213
1887	15,472,361	3,024,556	18,496,917

Value of expo
trade decline
since 1880.

It will be seen from the table given above that, although the value of New South Wales produce exported during 1887 was only exceeded in the years 1883 and 1884, the value per head was less than that of any year of the period from 1871 to 1887, 1885 and 1886 excepted. The decrease in value per head has been very considerable since 1883. In the year mentioned the exports of home produce amounted to £19 15s. 9d., while those of 1887 had fallen to £15 2s. 8d., a decrease of about 24 per cent. The major part of this decrease may be set down as due to the fall in the price of wool. The values of exports per head for each year since 1871 were :—

Value of Exports of New South Wales per Head.

Year.	New South Wales produce exported.	Other produce exported.	Year.	New South Wales produce exported.	Other produce exported.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1871	18 3 4	3 19 9	1880	17 13 10	3 18 5
1872	15 6 9	4 11 3	1881	17 6 1	4 2 11
1873	18 13 9	4 9 9	1882	17 16 7	4 8 3
1874	18 2 5	3 16 11	1883	19 15 9	4 10 0
1875	19 16 11	3 15 1	1884	16 18 10	4 3 0
1876	17 16 6	3 15 10	1885	14 2 11	3 16 11
1877	17 11 0	3 16 11	1886	13 3 1	2 14 6
1878	16 11 0	3 8 4	1887	15 2 8	2 19 2
1879	15 13 4	3 6 11			

The value of exports, the produce of the Colony, during the last eleven years, compared with those of the other colonies, shows that not only were the exports of New South Wales more valuable in the gross, but, when tested by the standard of population, exceeded those of all the other Colonies, with the exception of Queensland. Thus, for the last eleven years, the average exports per head have amounted to—

	£	s.	d.
New South Wales	16	10	6
Victoria	12	13	9
Queensland	16	14	10
South Australia	15	6	7
New Zealand	12	14	10
Tasmania	11	19	3
Western Australia	15	6	8

The chief articles of export are wool, coin, coal, live-stock, tin, silver, copper, skins, and tallow. Other articles have also been exported to considerable value in times past, but their importance has disappeared, or is lost in comparison with that of the products just named. Amongst such may be mentioned grain, leather, provisions, and sugar. Of some of these articles there is still a fairly large export, but of none is the export per head so large as formerly, while in the case of sugar it has practically ceased.

WOOL.

Wool is the staple export of the Colony, and comprises considerably more than half the value of the total exports. The quantities and values of the wool exported during each year since 1877 are given below, and from the table it will be readily seen how greatly the Colony depends for its prosperity upon the produce of its flocks.

New South Wales Wool Exported.

Year.	Weight.	Value.	Year.	Weight.	Value.
	lb.	£		lb.	£
1878	111,833,017	5,723,316	1883	188,161,710	9,598,761
1879	123,710,450	6,491,198	1884	173,986,303	8,953,100
1880	154,871,832	8,040,625	1885	168,151,659	7,246,642
1881	139,601,506	7,149,787	1886	173,985,640	7,028,596
1882	146,221,182	7,433,091	1887	216,450,342	8,911,155

Re-export of wool.

Besides the wool grown in the Colony, there has been a large re-export of other wool, chiefly from Queensland. In 1885, the export of foreign wool amounted to slightly more than 10,000,000 lb. weight, valued at £431,605; but in 1887, the quantity had fallen to 7,844,867 lb., of the value of £288,916. The exports, as returned by the Customs, are given below; but the quantities fall short of the actual amount, as not a little wool, the produce of other places, is exported as New South Wales wool, on the same principle, probably, that leads to the shipment from Melbourne, as the produce of Victoria, of over 40,000,000 lb. weight of wool grown in New South Wales,

Wool Exported—not the Produce of the Colony.

Year.	Weight.	Value.	Year.	Weight.	Value.
	lb.	£		lb.	£
1877	5,746,895	370,564	1883	8,878,422	537,483
1878	4,172,913	236,890	1884	9,030,215	429,399
1879	5,413,123	278,096	1885	10,221,766	431,605
1880	7,614,490	396,909	1886	4,664,971	173,380
1881	7,582,181	381,005	1887	7,844,867	288,916
1882	7,130,162	340,613			

Severe seasons have affected wool trade.

The severe seasons experienced during the past few years have very materially interfered with the production, and consequently with the exportation, of wool; but the splendid season of 1886-7 was attended with a considerable increase in this staple export, and there is every probability of the increase being sustained during 1888. There has been a tendency in past years to export washed

Export of washed wool.

wool; thus, in 1877, out of a total export of 54,736,114 lb. from Sydney, 22,655,077 lb. were washed; in 1883, the quantity was only 29,964,411 lb., out of a total of 134,015,162 lb.; and in 1887, 36,454,043 lb. washed wool, out of a total export seawards of 151,025,408 lb. The tendency is now towards the export of wool in grease, except where the conditions as to carriage, &c., are exceptional.

Other exports.

The other animal products—tallow, skins, leather, and such-like—form together an export of considerable value, though, owing to the large local demand, it is not probable that there will be any material increase in the value of these articles exported.

Coal.

Coal, also, forms one of the staple exports of New South Wales, having reached a total value of nearly £1,000,000. The development of the coal trade of the Colony has been traced in the chapter on Mines and Minerals, and it will be seen that this product is subject to less fluctuation than any other item of export.

Silver.

The export of silver and silver-lead ore has become important since 1884, and bids fair to show considerable increase. The export both of copper and tin revived somewhat during 1887, owing to the advanced price obtained in the European markets; but the trade in these metals is still very much below that of 1884 and previous years.

Bullion and specie.

Bullion and specie form one of the most important exports of the Colony, though the larger part of the coin exported is minted from gold produced in other colonies. The export during each year since 1871 was—

	£		£
1871	2,346,971	1880	887,773
1872	2,406,443	1881	1,982,210
1873	2,952,476	1882	1,743,563
1874	1,972,582	1883	1,725,891
1875	2,118,323	1884	949,758
1876	1,679,227	1885	1,632,258
1877	1,901,538	1886	1,584,324
1878	1,823,958	1887	1,298,569
1879	824,758		

Exports of home produce.

Divided into the classes adopted for the imports, the exports of home produce in 1887 appear as follows :—

	£
Food and beverages, including breadstuffs..	427,929
Wine, fermented and spirituous liquor	19,325
Live stock	1,412,200
Animal and vegetable products, including wool	9,665,580
Clothing and textile fabrics	2,737
Minerals and metals, raw or partly worked up, not including coal, coin, and bullion	1,365,921
Coal	967,297
Specie and precious metals	1,331,027
Articles of education, art, and amusement	77,541
Manufactured articles not included elsewhere	199,218
Unclassified	3,586
Total	15,472,361

Raw materials largest export.

By far the larger portion of the exports consists of raw materials. As an export manufacturing country New South Wales has not yet achieved any position; and, though its manufactures are of very considerable importance, as will hereafter appear, its own markets furnish so wide a scope for manufacturing industry as to make it improbable that there will be any great development of export trade in home manufactures in the immediate future. So many channels have been presented for the successful employment of capital that little attention has been bestowed upon the possibility of New South Wales supplying other countries with its own manufactures; but as these outlets of capital are closed, the vast possibilities of the country in other directions will doubtless be recognised. The following table has been prepared with the view of showing the relative importance, and the proportion per head of population, of each of the principal articles exported. The preponderance of raw material, and raw material advanced one stage towards the finished manufacture, will be apparent.

Chief articles exported.

Value per Head of the Principal Articles of Home Produce and Manufacture Exported.

Articles.	1876.		1877.		1878.		1879.		1880.		1881.		1882.		1883.		1884.		1885.		1886.		1887.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Coal	20	8	20	0	21	6	20	1	11	9	11	0	16	3	19	10	21	2	20	9	19	4	18	9
Coin*	52	1	57	8	50	3	20	0	22	10	42	11	38	6	37	4	19	6	29	6	32	4	24	7
Copper	7	3	9	9	10	6	7	5	10	0	9	4	8	2	13	10	9	5	5	8	3	5	3	5
Flour	0	2	0	7	0	5	0	4	0	3	0	5	0	9	0	7	0	6	0	4	0	5	0	5
Fruit	1	5	2	1	2	2	2	6	2	6	2	10	2	2	2	9	2	3	2	5	2	3	2	11
Gold	0	5	0	5	1	5	0	2	0	0½	7	5	3	10	3	1	1	9	1	8	0	9	0	10
Grain and pulse	3	0	4	7	4	8	3	10	3	0	3	4	1	7	1	5	1	6	1	9	1	1	1	6
Leather	3	1	2	11	2	9	1	10	2	10	3	7	3	7	2	4	2	10	2	3	2	1	1	9
Boots and shoes	1	11	1	10	1	5	1	5	1	4	1	2	1	2	1	3	1	3	1	0	0	6	0	8
Live stock	37	9	28	5	22	4	26	6	27	0	20	5	18	8	18	10	27	2	20	11	19	2	27	7
Provisions	3	3	4	6	1	10	4	5	5	2	5	4	4	5	6	7	4	2	3	10	1	7	3	10
Silver and silver ore	0	6	0	3	0	5	0	6	0	7	0	4	0	2	0	5	3	3	5	9	8	8	11	3
Skins	2	8	4	3	2	8	4	0	5	1	5	6	6	7	7	1	6	7	5	10	6	2	5	8
Sugar	5	7	4	4	4	1	4	11	4	9	3	1	1	10	1	5	0	10	...	...	......		......	
Tallow	3	11	4	8	2	11	6	3	9	8	7	0	5	11	8	7	4	6	4	2	3	0	4	9
Timber	0	10	0	10	1	1	1	0	0	6	0	7	1	0	1	7	2	4	1	2	1	3	1	8
Tin	12	6	16	2	12	1	10	10	13	0	19	1	20	11	19	9	11	10	8	11	9	6	10	3
Wool	93	0	167	2	174	0	188	0	221	7	188	1	187	0	230	1	203	3	155	8	143	5	174	4

---

* Coined at Mint, but mostly from gold the produce of other Colonies.

Home produce exported.

The values of some of the principal articles of home produce exported, during 1887, including those mentioned above, were as follows :—

Export of Home Produce.

	£		£
Boots and shoes	35,774	Live stock	1,411,700
Coal	960,539	Provisions (meat)	194,776
Coin	1,256,882	Shale (kerosene)	62,320
Copper	199,102	Silver and ore	574,410
Flour	20,669	Skins	287,926
Fruit	147,910	Tallow	241,765
Gold	41,687	Timber	84,268
Grain	78,997	Tin	525,420
Leather	90,968	Wool	8,911,155

Trade in live stock.

The number and value of the live stock exported have varied considerably from year to year, being affected greatly by the seasons experienced both in this and the neighbouring colonies.

Export of horses declined.

The export of horses has declined, as far as numbers are concerned, but the values have increased. On the other hand, the imports show an increase in number and in value. The figures in respect to horses are to some extent misleading, as the number of thoroughbred racing animals passing backwards and forwards between Sydney and Melbourne, which are entered as exports and imports, give more importance to the trade than its magnitude really warrants.

The decrease in the number of cattle depastured in the Colony has been attended by a diminished export, and whilst the exportation of sheep has also fluctuated greatly since 1883, the number of horned cattle imported has largely increased. The failure of the pastures throughout a portion of the Colony led to a partial exodus of sheep in 1884, and in 1885 there was a correspondingly large return.

Returns of stock misleading.

But, as in the case of horses, the figures for the export and import of other live stock are to a certain extent misleading, inasmuch as the returns are swollen by the inclusion of stock sent from one colony to another, in the hope of obtaining better pasturage, or for fattening or breeding purposes. The general tendency of the trade, however, can be gathered from the table below. Correct figures were obtained for all the colonies except Queensland, but the overland Queensland trade, both for exports and imports, has been greatly understated. The total trade in live stock during 1887 was—

Trade in live stock.

Trade in Live Stock.

Live stock.	Exported.		Imported.	
	Number.	Value.	Number.	Value.
		£		£
Horses	3,645	135,017	5,793	163,791
Horned cattle	99,823	607,901	135,508	607,728
Sheep	1,218,504	663,985	864,313	395,974
Pigs	2,503	3,394	982	1,277
Other stock	12	180	150	451
Total	1,324,487	1,410,477	1,006,746	1,169,221

RE-EXPORT TRADE.

Re-export trade considerably.

The re-export trade of the Colony has increased considerably during the past decade, but has now reached a point beyond which it is not likely to advance for some years. The shipping facilities of Sydney have hitherto attracted to the port a large amount of trade from New Zealand, Queensland, and the South Seas, for transhipment to Europe; but the establishment of direct communication between these colonies and Europe has checked to some extent the expansion of the re-export trade, though it is not probable that it will fall below its present dimensions. The re-export overland trade is comparatively limited, amounting in 1887 to only £161,254, out of a total trade of £3,024,556.

Overland trade in foreign produce.

Value of re-exports.

The total value of the re-exports of the Colony during each of the past eleven years, was as follows :—

Year.	Seaward.	Overland.	Total.
	£	£	£
1877	2,353,563	67,498	2,421,061
1878	2,189,658	59,710	2,249,368
1879	2,278,151	33,024	2,311,175
1880	2,797,476	47,880	2,845,356
1881	3,093,454	60,556	3,154,010
1882	3,430,251	78,251	3,508,502
1883	3,661,223	94,928	3,756,151
1884	3,521,743	134,027	3,655,770
1885	3,418,920	164,944	3,583,864
1886	2,536,633	135,380	2,672,013
1887	2,863,302	161,254	3,024,556

Re-export trade has kept pace with increase of population.

It will be seen that the amount of exports has kept pace fairly with the increase of population, the greatest decline being during 1886, which was due in all probability to the depression in trade experienced almost everywhere during that year. A slight revival of the seaward trade took place in 1887, though the total volume of trade and the ratio per head of population was still very much below some previous years. The subsequent table, giving the value per head of foreign produce exported since 1871, will illustrate its comparative importance during each year.

Value per Head of Foreign Produce Exported.

Year.	Value.	Year.	Value.	Year.	Value.
	£ s. d.		£ s. d.		£ s. d.
1871	3 19 9	1877	3 16 11	1883	4 10 0
1872	4 11 3	1878	3 8 4	1884	4 3 0
1873	4 9 9	1879	3 6 11	1885	3 16 11
1874	3 16 11	1880	3 18 5	1886	2 14 6
1875	3 15 1	1881	4 2 11	1887	2 19 2
1876	3 15 10	1882	4 8 3		

Principal re-exports.

Amongst raw materials, the principal articles re-exported are copper, tin, and wool; the manufactured articles are chiefly drapery, apparel, hardware, iron and steel, books and stationery, boots, beer and spirits, and also large quantities of provisions. Grouped under the several heads already adopted for the imports and exports, the value of the trade for the year 1887 will be found below.

Re-export Trade.

	£
Food and beverages, including breadstuffs	546,603
Wines, fermented and spirituous liquors	143,236
Live stock	57,421
Animal and vegetable products, including wool	471,087
Clothing and textile fabrics	340,620
Minerals and metals, raw or partly worked up, not including coal, coin, and bullion	434,906
Specie and precious metals	30,779
Articles of education, art, and amusement	247,962
Manufactured articles not elsewhere included	721,993
Articles unclassified by Customs	29,949
Total	3,024,556

Indirect benefit of re-exports.

The benefit derived by the Colony from its re-export trade is indirect and can hardly be estimated. The freights earned by New South Wales vessels carrying such produce, do not amount to a large sum, as the carriage is chiefly in other hands. Still the trade is valuable, the probable sum accruing to the Colony from this source being about 5 per cent. on the total value of the trade, as shown in the following table :—

Approximate Earnings from Re-export of Foreign Produce.

	£		£
1877	121,053	1883	187,807
1878	112,468	1884	182,788
1879	115,558	1885	179,193
1880	142,267	1886	133,600
1881	157,700	1887	151,228
1882	175,425		

OVERLAND TRADE.

Overland trade affected by railway.

As the major portion of the goods exported overland simply passes through the border colonies of Victoria and South Australia, to Great Britain, the diversion of the trade along the railways of the Colony to its ports, must be looked upon as a distinct gain. It was believed that the extension of the trunk railways to the centres of the pastoral industry would have the effect of permanently diverting a considerable portion of trade from Victoria and South Australia, but the following table will show that such diversion has only been partial, and that the volume of trade, especially to Adelaide, is almost entirely governed by the state of the rivers. During 1887 the rivers were favourable to navigation, and the overland trade was larger than in any former year.

Overland Trade.

Year.	Imports.	Exports.	Total.
	£	£	£
1877	1,871,816	3,474,861	5,346,677
1878	2,090,611	3,845,648	5,936,259
1879	1,535,421	4,149,047	5,684,468
1880	1,438,155	4,768,542	6,206,697
1881	1,708,648	4,022,461	5,731,109
1882	1,912,409	4,995,645	6,908,054
1883	2,320,495	4,307,623	6,628,118
1884	2,186,553	4,830,770	7,017,323
1885	2,611,130	3,405,073	6,016,203
1886	1,699,589	4,090,074	5,789,663
1887	2,801,492	5,206,621	8,008,113

TRADE OF AUSTRALASIAN COLONIES.

Trade larger than any other colony.

The trade of New South Wales is larger, both in the gross amount and the value per head, than that of any of the other Colonies of Australasia. The total trade of each colony, and the trade per head, for the past twelve years are given below; and though the latter part of the period was one of severe depression, the magnitude of the trade, not only of this Colony but of the rest of the group, is very suggestive. In gross amount, the trade of Victoria ranks second to New South Wales, but in point of value per head, that colony is surpassed by Queensland, South Australia, and, during the last two years, by Western Australia.

Trade of Australasian Colonies.—Total Value per Head in Each Colony.

Year.	New South Wales.				Victoria.				South Australia.			
	Total value.	Value per head.			Total value.	Value per head.			Total value.	Value per head.		
	£	£	s.	d.	£	£	s.	d.	£	£	s.	d.
1876	26,676,717	44	9	1	29,901,841	37	10	9	9,392,353	43	1	5
1877	28,310,678	45	0	3	31,519,991	38	19	7	9,252,042	39	19	8
1878	28,239,050	42	18	7	31,087,587	37	16	10	11,074,632	45	10	6
1879	27,635,757	40	0	3	27,489,708	32	19	2	9,776,877	38	6	6
1880	29,858,865	41	2	10	30,511,453	35	17	7	11,156,003	42	3	9
1881	33,894,817	44	11	8	32,970,624	37	16	11	9,631,821	34	2	7
1882	39,145,254	49	5	1	34,941,660	39	1	5	12,067,678	41	13	4
1883	41,785,114	50	1	8	34,142,709	37	3	0	11,193,516	37	10	1
1884	41,738,206	47	7	9	35,252,098	37	4	10	12,373,057	40	3	5
1885	40,487,568	43	9	10	33,596,362	34	9	2	11,184,658	35	0	0
1886	36,529,761	37	5	7	30,325,896	30	14	5	9,341,760	29	16	9
1887	37,303,153	36	9	8	30,373,296	29	15	10	10,427,073	33	7	2

Year.	Queensland.				Western Australia.				Tasmania				New Zealand.			
	Total value.	Value per head.			Total value.	Value per head.			Total value.	Value per head.			Total value.	Value per head.		
	£	£	s.	d.	£	£	s.	d.	£	£	s.	d.	£	£	s.	d.
1876	7,002,140	38	0	4	783,330	28	13	5	2,263,986	21	13	0	12,578,636	33	4	2
1877	8,429,957	43	4	2	736,059	26	13	9	2,725,646	25	12	10	13,300,890	32	11	5
1878	6,626,496	32	0	10	807,541	28	16	9	2,640,507	24	6	7	14,771,188	34	17	7
1879	6,514,923	30	8	4	902,182	31	15	0	2,568,572	23	1	11	14,117,711	31	10	1
1880	6,535,456	29	8	10	852,852	29	11	4	2,881,154	25	7	2	12,514,703	26	7	8
1881	7,603,991	34	8	1	907,601	30	15	0	2,986,720	25	9	2	13,517,911	27	7	10
1882	9,852,915	41	9	4	1,091,810	35	18	6	3,258,261	26	19	10	15,267,278	30	1	3
1883	11,509,959	42	19	4	963,856	30	15	0	3,564,236	28	13	3	15,070,037	28	9	5
1884	11,055,840	37	0	3	926,860	28	13	5	3,131,975	24	7	11	14,755,555	26	14	0
1885	11,665,894	36	12	9	1,097,083	33	4	0	3,071,179	23	4	9	14,299,860	25	6	2
1886	11,037,197	32	19	4	1,388,406	37	2	9	3,088,107	22	16	9	13,431,804	23	1	4
1887	12,275,556	34	12	0	1,271,010	30	19	6	3,046,188	21	15	7	13,111,684	21	19	9

BRITISH TRADE.

British tr
holds first
position

The British trade holds the first position in regard to value, being larger, in most years, than even the intercolonial trade of the Colony; and if to the value of goods coming directly from Great Britain were added that of goods passing through the neighbouring colonies, but destined for, or coming from, England, the proportion of British trade would be still higher. For, though the nominal trade between Great Britain and New South Wales amounted in 1887 to the large sum of £14,964,624, out of a total trade of £37,303,153, it is probable that the actual value of this trade was not less than £20,000,000. The amount of trade as set down in the subsequent table is, therefore, much below the truth, especially in regard to exports, as the larger part of the produce exported to Victoria and South Australia overland is in reality destined for British ports. The seaward trade alone can be given, and this will be found below for the years which have elapsed since 1870.

Trade with Great Britain.

Year.	Imports.	Exports.	Total British trade.
	£	£	£
1870	3,200,706	2,492,640	5,693,346
1871	3,252,617	4,378,281	7,630,898
1872	3,728,457	4,926,728	8,655,185
1873	5,137,139	6,657,559	11,794,698
1874	4,888,725	5,737,066	10,625,791
1875	6,062,226	6,374,503	12,436,729
1876	5,763,533	5,918,187	11,681,720
1877	6,471,780	6,018,926	12,490,706
1878	6,658,628	5,516,437	12,175,065
1879	6,749,519	5,148,609	11,898,128
1880	6,536,661	7,525,637	14,062,298
1881	8,986,838	7,561,114	16,547,952
1882	11,155,917	7,309,691	18,465,608
1883	10,624,081	9,884,207	20,508,288
1884	11,423,047	7,683,880	19,106,927
1885	11,885,597	7,293,133	19,178,730
1886	10,445,980	6,026,954	16,472,934
1887	7,998,568	6,966,056	14,964,624

INTERCOLONIAL TRADE.

Value of intercolonial trade.

Next in importance to the British trade stands the intercolonial, the value of which amounted in the year 1887 to £8,651,494 imports, and £8,968,491 exports, or a total trade of £17,619,985, a sum somewhat larger than the nominal trade with Great Britain.

Year.	Imports.	Exports.	Total trade.
	£	£	£
1877	6,416,757	6,628,822	13,045,579
1878	6,468,978	6,802,373	13,271,351
1879	5,634,808	7,120,840	12,755,648
1880	5,945,788	7,381,172	13,326,960
1881	6,229,916	6,981,456	13,211,372
1882	7,289,823	8,425,903	15,715,726
1883	8,054,390	7,943,332	15,997,722
1884	8,507,199	8,708,323	17,215,522
1885	8,595,429	6,936,139	15,531,568
1886	7,742,619	7,544,139	15,286,758
1887	8,651,494	8,968,491	17,619,985

The figures for Western Australia are not available for the whole period, and are too small to affect the total to any material extent. They have therefore been disregarded.

Trade with other colonies during 1886.

The trade of the other Australasian colonies with New South Wales showed an increase during 1887 of £2,333,227. The reason of this advance will be found in the increased value of the wool clip of the year, and the diversion of part of the trade of the Western districts of the Colony from New South Wales seaports to those of the neighbouring colonies. As already pointed out, a great proportion of the intercolonial export trade, especially that which is sent overland, represents produce of this colony ultimately destined for European markets, though credited to the colony to which it is sent in the first instance. The favourable state of the rivers enabled a greater amount of produce to be dispatched to Melbourne and Adelaide during 1887 than in the year 1886, hence the large advance noted above. Similarly with the import trade, the large part of the increase for 1887 comprises goods originally coming from Great Britain, but purchased in the Melbourne and Adelaide markets. The total value of the intercolonial trade, as already stated, amounted during 1887 to £17,619,985, a sum larger than in any former year, exceeding even 1884, aided as that year was by a fair season and a higher price for wool.

TRADE WITH VICTORIA.

Value of trade with Victoria.

Victoria comes first amongst the colonies of the group, as regards the value of its trade with New South Wales, though its importance has sensibly declined during late years, especially in regard to exports. It is estimated that prior to the extension of the railway system of this Colony into the Riverine districts, nearly one-fourth of its territory, comprising some of the richest districts in the Colony, traded almost exclusively with Victoria. This trade has now been, to a great extent, diverted along New South Wales lines to Sydney; hence the decrease observable, which will be more plainly seen in the table on page 172, showing the overland trade with Victoria.

Large range of articles imported from Victoria.

The import trade of the Colony from Victoria covers a large range of articles, and in this respect differs from the export, which is mainly comprised in three leading items of raw produce—wool, stock, and coal. Dividing the imports from Victoria into two classes, viz., Victorian and other produce, the chief imports under the former class are agricultural implements, butter, breadstuffs, fruit, oats, hay and other fodder, and vegetables; while under the second head come drapery and apparel, drugs, hardware, iron, jewellery, machinery, stationery, and other manufactured articles. Victorian produce, properly so called, comes chiefly to Sydney;

the other articles are taken by the southern and western portions of the Colony, which have for many years looked to Victoria as a market whence such supplies are to be derived.

Wool chief export.

The chief export to Victoria is wool, forwarded to Melbourne for shipment to London and other European ports. The value of wool exported to Victoria during the last eleven years was:—

	£		£
1877	2,248,574	1883	2,502,205
1878	2,154,201	1884	2,229,873
1879	2,709,736	1885	1,863,009
1880	3,224,289	1886	1,931,278
1881	2,783,969	1887	2,451,552
1882	2,396,528		

The decrease noticeable in the values given above is due mainly to the extension of the railway system of the Colony, and the consequent diversion of traffic to Sydney from the old routes; but the decrease is also partly attributable to the fall in the value of the staple which has taken place in recent years.

Export of stock.

Live stock of all kinds forms a large portion of the exports to Victoria, though the imports, especially of sheep, have also been considerable; and in 1885, the balance of trade was in favour of the southern colony. Victoria has already reached the limit where the cast of stock equals the demand for meat; and is, therefore, dependent upon the other colonies, especially New South Wales, for the supply of the deficiency, the amount of which is little short of one-fourth of the whole consumption.

Trade since 1870.

Coal is next in importance as an export of this Colony to Victoria, the value during 1887 being £379,206. The only other produce worthy of special note are skins and timber, the former being sent to Victoria for re-export. The following table gives the trade of each year since 1870; but as no records were kept of the trade during certain years in which border duties were not collected, the totals for such years are necessarily only approximate.

Trade with Victoria.

Year.	Imports.	Exports.	Total.
	£	£	£
1870	1,153,695	2,583,552	3,737,247
1871	1,698,236	4,577,559	6,275,795
1872	1,188,781	2,858,191	4,046,972
1873*	....	3,366,963	....
1874	1,349,062	3,614,456	4,963,518
1875	2,066,156	4,269,770	6,335,926
1876	2,376,777	4,043,566	6,420,343
1877	2,531,449	3,898,129	6,429,578
1878	2,897,503	3,694,434	6,591,937
1879	2,234,381	4,177,871	6,412,252
1880	2,187,119	4,578,867	6,765,986
1881	2,414,590	4,052,694	6,467,284
1882	2,770,245	3,781,421	6,551,666
1883	3,012,268	4,170,599	7,182,867
1884	3,064,816	4,170,497	7,235,313
1885	3,309,696	3,450,796	6,760,592
1886	2,789,700	3,697,343	6.487,430
1887	2,894,681	4,773,815	7,668,496

* No Returns of the overland trade for this year.

Greater portion of trade borderwise.

The greater portion of the exports to Victoria, as well as nearly half the imports, are borderwise. The value of the imports overland, however, fell greatly, from the causes already specified, during the year 1886, when they reached only £874,680, or scarcely one-third of the total value of goods imported, increasing again in 1887 to £1,418,212, or about the normal average. The value in each of the past eighteen years was—

Overland Trade with Victoria.

Year.	Imports.	Exports.	Total.
	£	£	£
1870	448,308	1,811,848	2,260,156
1871	491,632	3,027,714	3,519,346
1872	464,185	2,123,622	2,587,807
1873*	....	2,758,116	....
1874	452,086	2,812,477	3,264,563
1875	945,049	3,546,674	4,491,723
1876	1,246,880	3,294,795	4,541,675
1877	1,360,171	2,869,945	4,230,116
1878	1,357,715	2,661,639	4,019,354
1879	933,999	3,394,764	4,328,763
1880	963,620	3,824,310	4,787,930
1881	1,210,931	3,229,664	4,440,595
1882	1,217,120	2,867,810	4,084,930
1883	1,266,330	2,955,808	4,222,138
1884	1,331,908	3,118,389	4,450,297
1885	1,555,139	2,450,444	4,005,583
1886	874,680	2,537,549	3,412,229
1887	1,418,212	3,421,254	4,839,466

* No returns of the overland trade for this year.

TRADE WITH QUEENSLAND.

Trade with Queensland.

Queensland ranks next to Victoria in regard to the value of its trade with New South Wales, which in some respects is even more important than that of the southern colony. The estimated value of the imports and exports since 1870 is given below. It is possible that the amounts are somewhat understated, as there is a good deal of trade in stock which does not come under the cognisance of the Customs officers. Though New South Wales and Queensland have a common boundary of 900 miles, the overland trade, except in live stock, is not large. If, however, the value of stock be added, the figures reach a very considerable total, as will be seen from the subjoined tables.

Trade with Queensland.

Year.	Imports.	Exports.	Total trade.
	£	£	£
1870	1,240,877	639,761	1,880,638
1871	1,921,790	715,287	2,637,077
1872	2,150,452	1,053,386	3,203,838
1873	2,248,609	953,017	3,201,626
1874	2,569,989	1,138,880	3,708,869
1875	2,521,310	1,238,226	3,759,536
1876	2,117,318	1,179,291	3,296,609
1877	2,476,141	1,830,209	4,306,350
1878	2,149,534	1,390,147	3,539,681
1879	2,206,094	1,444,769	3,650,863
1880	2,224,421	1,362,262	3,586,683
1881	2,169,105	1,959,925	4,129,030
1882	2,149,766	3,012,782	5,162,548
1883	2,951,558	2,314,087	5,265,645
1884	2,983,178	2,387,085	5,370,263
1885	2,913,588	2,174,266	5,087,854
1886	2,568,438	1,667,862	4,236,300
1887	3,152,664	2,001,765	5,154,429

The imports from Queensland are chiefly comprised under seven items. The value of wool imported during 1887 was £305,542, being entirely for re-export. Stock was imported to the value of £556,371, of which £487,032 represented cattle; raw sugar, £268,469; skins, £106,304; tallow, £41,990; tin, £206,660; and gold for coinage, £1,534,445.

Exports to Queensland.

The value of the exports has varied greatly from year to year through causes similar to those affecting the imports. The most remarkable year in the series given above was in 1882, when the overland export trade reached £1,206,408. Of this sum, £1,149,835 represents the value of stock exported, viz., 3,035 horses, valued at £25,525; 29,404 cattle, valued at £302,590; and 1,645,657 sheep, of the value of £821,720. During 1886, the value of stock exported was very much less than in previous years, amounting to only £125,334; while, in 1887, the value rose to £220,686. The exports to Queensland comprise a large number of items, mainly articles of re-export.

Overland Trade with Queensland.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1876	135,322	142,689	1882	282,726	1,206,408
1877	257,807	394,502	1883	649,843	569,263
1878	345,691	229,255	1884	493,680	424,940
1879	312,118	118,112	1885	669,739	337,023
1880	231,161	245,651	1886	382,875	156,122
1881	261,948	494,793	1887	670,042	272,126

TRADE WITH SOUTH AUSTRALIA.

Trade with South Australia

The trade with South Australia is perhaps more variable than with any other Colony, depending, as it does, so largely on the state of the Murray and Darling Rivers. In the subsequent table the years that are marked by a large export trade are those in which the rivers afforded special facilities for navigation. Such years were 1876, 1878, 1882, 1884, 1886, and 1887. The total imports and exports during each year since 1870 are given below.

Trade with South Australia.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1870	366,480	350,247	1879	721,186	773,611
1871	724,825	490,646	1880	690,407	830,256
1872	653,903	442,016	1881	692,781	454,764
1873	598,527	630,537	1882	1,017,685	1,085,194
1874	574,421	657,768	1883	841,109	969,083
1875	987,933	654,232	1884	1,002,174	1,502,366
1876	1,165,706	670,138	1885	890,335	810,953
1877	811,292	352,825	1886	828,174	1,585,830
1878	889,691	1,053,642	1887	1,259,758	1,740,517

The exports to South Australia are chiefly silver and lead, the value of which in 1887 was £530,462; wool, £872,896; live-stock, £99,597, and coal, £62,715.

Overland trade with South Australia.

The records of the overland trade cannot be procured with exactness beyond the year 1876, but the time which has elapsed since the year named is amply sufficient to illustrate the great variations in the value of the exports. The import trade is much more regular, and until the year 1887 showed no great tendency to increase; in this year, however, a very marked increase is noticeable. This expansion is due to the requirements of the newly-found silver-fields of the north-west, and the imports from South Australia *viâ* Thackaringa amounted to £482,400 during the year. It is anticipated that the extensions of the railway system of this Colony to the banks of the Darling at Bourke and Wilcannia, will eventually divert not a little of the traffic which has hitherto gone to Adelaide. The certainty of speedy delivery, and the less amount of handling to which goods will be subjected, will probably more than compensate for the additional expense of delivery at the ship's side.

Overland Trade with South Australia.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1876	417,421	577,967	1882	412,563	921,427
1877	253,838	210,414	1883	404,322	782,552
1878	387,205	954,754	1884	360,965	1,287,441
1879	289,304	636,171	1885	386,252	617,606
1880	243,374	698,581	1886	442,034	1,396,403
1881	235,769	298,004	1887	713,238	1,513,241

Victoria displacing South Australia in N.S.W. markets.

The prominence which Victoria has assumed of recent years as a wheat-growing country, acts detrimentally to the trade of South Australia, for much of the breadstuff consumed in New South Wales, which was formerly obtained from Adelaide, is now procured from Victoria. The falling-off in this staple commenced about the year 1878, and is coincident with the development of the Victorian trade in flour and wheat, as will be seen from the following table, showing the value of wheat and flour imported from each of these colonies.

Wheat and Flour Imported from Victoria and South Australia.

Year.	Value of imports from South Australia.		Value of imports from Victoria.	
	Wheat.	Flour.	Wheat.	Flour.
	£	£	£	£
1870	76,397	123,958	20,758	33,986
1871	260,346	201,963	6,205	33,992
1872	105,523	205,042	7,833	7,715
1873	144,592	201,332	539	17,677
1874	141,675	230,251	1,423	4,180
1875	197,263	289,385	1,514	1,296
1876	187,444	295,371	902	2,188
1877	154,284	261,918	9,765	32,305
1878	116,089	251,246	34,401	153,126
1879	63,973	221,174	13,280	76,310
1880	42,340	263,546	43,249	126,142
1881	19,406	269,342	33,165	113,796
1882	62,117	321,127	23,680	194,823
1883	9,195	229,617	38,794	237,342
1884	36,460	299,274	23,907	216,546
1885	31,236	219,320	23,433	291,999
1886	853	172,299	57,729	384,037
1887	11,388	308,805	34,050	364,107

TRADE WITH TASMANIA.

Trade with Tasmania.

The trade of New South Wales with Tasmania promises to develop into one of great importance, and its growth during the period comprised in the following table must therefore appear satisfactory. It will, however, be seen that the imports largely exceed the exports. The chief imports are tin, of which ingots to the value of £304,507 were imported during 1887, entirely for the purpose of re-export; green fruit, amounting to £68,742; potatoes, £68,815; jams and jellies, £28,182; bark, £27,254, and other agricultural produce to the value of £6,680. The only other articles of import worthy of note are butter, hops, and leather.

The export trade embraces a large number of articles, though only two, coal and gold coin, reach any considerable amount.

The value of coal exported to Tasmania in 1887 was £23,631, and of coin, £25,000. The other exports consist of manufactured articles, chiefly the produce of Great Britain.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1870	90,827	26,555	1879	188,064	82,842
1871	107,002	23,049	1880	383,106	81,484
1872	103,018	54,993	1881	481,529	83,949
1873	128,770	36,044	1882	614,923	85,673
1874	145,865	52,127	1883	666,399	120,662
1875	167,870	44,274	1884	575,501	117,872
1876	207,075	53,484	1885	582,177	108,758
1877	374,393	57,168	1886	606,740	110,776
1878	286,343	75,453	1887	587,315	131,477

TRADE WITH NEW ZEALAND.

Trade with New Zealand.

New Zealand gave promise at a former period of being one of the leading customers of this Colony, but, from various causes, both the imports and the exports fell away very considerably. The trade lost has, however, been partly recovered, though the exports are still less than in 1879, as will be seen from the following figures.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1870	298,951	197,025	1879	285,083	639,051
1871	881,501	285,463	1880	460,735	525,174
1872	326,369	228,930	1881	471,911	427,295
1873	198,368	279,153	1882	737,204	454,853
1874	233,981	273,910	1883	583,056	358,627
1875	135,480	362,764	1884	881,530	506,714
1876	258,441	480,241	1885	899,623	369,055
1877	223,482	489,856	1886	949,567	427,640
1878	245,907	588,419	1887	757,076	300,937

Imports of agricultural produce.

The imports consist chiefly of agricultural and dairy produce. The value of wheat imported during 1887 was £3,476, and of flour, £8,617; the importation of oats amounted to £143,604; of other grain and pulse, £14,529; of bran and sharps, £18,826; of oatmeal, £8,849. The principal articles of farm produce imported were—bacon and hams, £25,590; cheese, £3,638; and butter, £21,206. Timber valued at £83,692; horses, £13,627; cattle, £2,713; and hops and malt, £10,423, and gold £262,344, were the other leading importations.

Exports to New Zealand.

The main exports during 1887 were—gold coin, £87,000; coal, £81,478; green fruit, £19,242; and books and periodicals, £14,989; or £202,709 out of a total trade of £300,937. The only other articles exported to any considerable extent were—drapery and apparel, £8,296; and timber, £5,952.

TRADE WITH OTHER BRITISH POSSESSIONS.

Besides the Australasian Colonies and Great Britain, the only other British possessions whose trade with New South Wales is at all considerable are Fiji, Hongkong, and India. With the Fiji Islands the trade is still valuable, though decreasing. In 1876, the imports from these Islands were valued at £29,610, and the exports at £71,477, being a total of £101,087, while in 1887 the imports had risen in value to £99,880, and the exports to £75,102, representing a total trade of £174,982. The imports in 1885 were valued at £192,510, so that there has been a considerable decline since that year, while the imports were less in 1887 than in either of the past ten years, and did not reach 30 per cent. of the figures of 1883.

Hongkong trade.

The import trade from Hongkong consists principally of opium, tea, tobacco, sugar, and rice, but large quantities of China oil, flax, hemp, and matting, as well as Chinese fancy goods, are also imported. The export trade is chiefly composed of four items—coin to the amount of £153,453, was exported during 1887; coal £47,448; bêche-de-mer, £4,563; and fungus, £11,108.

The India trade.

The Indian trade has grown up almost entirely since 1880, in which year it amounted to only £20,264, increasing to £422,137 in 1884, though falling off considerably in the two following years, but expanding again in 1887 to £321,067. The following figures show the value of imports and exports during each year since 1880:—

Trade with India.

Year.	Imports.	Exports.	Total trade.
	£	£	£
1880	653	19,611	20,264
1881	27,871	142,053	169,924
1882	72,739	345,312	418,051
1883	108,154	310,608	418,762
1884	128,185	293,952	422,137
1885	117,208	122,066	239,274
1886	100,905	89,299	190,204
1887	147,559	173,508	321,067

Goods chiefly imported fro India.

Castor oil is an article very largely imported from India, the value of oil received during 1887 being £38,872. There is also a large trade in woolpacks, the importations amounting to £59,722; and in bags and sacks, of which goods to the amount of £29,724 were received. The only other articles imported during 1887 in any quantity were rice, £5,107, and tea, £6,069. The import of grain and pulse during the year amounted to only £536, but the large development of wheat-growing of late years in India makes it not improbable that the importation of this cereal may be largely increased in the near future.

The outward trade with India is confined almost entirely to coal and copper; of the former the export was valued at £30,248, and of the latter £114,514. Horses, valued at £5,135, and wool at £2,774, were also exported—the four items mentioned comprising a value of £152,671, out of a total export trade during 1887 of £173,508. The great falling-off noticeable since 1882–3 is due to the decline in the copper trade, and in the amount of gold coin exported, which, in the year 1882 was £242,258, and in 1883 £232,862.

Chief trade of Colony with Britain and dependencies.

To what extent the trade of the Colony follows the British flag may be gathered from the following figures, which show not only the value of the trade of New South Wales with Great Britain and her dependencies during the past eleven years, but also the proportion which that trade bears to the whole.

Trade with Great Britain and British Possessions.

Year.	Imports from Great Britain and British possessions	Percentage of total imports.	Exports to Great Britain and British possessions.	Percentage of total exports.
	£		£	
1877	13,621,916	91·70	12,999,571	96·59
1878	13,694,884	90·66	12,650,708	96·34
1879	13,032,949	89·86	12,573,104	95·71
1880	13,021,783	91·85	15,210,314	97·00
1881	15,797,631	89·82	15,008,960	92·05
1882	19,269,165	89·73	16,470,481	93·18
1883	19,383,052	90·03	18,670,373	92·15
1884	20,942,254	90·42	17,221,650	92·69
1885	21,299,715	89·74	14,794,052	88·33
1886	18,813,492	89·70	14,088,846	90·58
1887	17,199,867	91·45	16,460,276	88·98

FOREIGN TRADE.

Uniform increase of foreign trade.

The value of the trade of the Colony with countries other than those under British dominion shows a large increase since 1880, as will be at once seen from the subjoined table. The import trade is marked by a fairly uniform increase, while the export trade, though less regular, showed proportionately a more considerable increase. During 1881 the value of imports advanced £635,101, and the exports £826,357, an increase due mainly to the peculiar development of trade with the United States; while the large expansion found in the subsequent years arose from the establishment of direct trade with France, Belgium, and Germany. The total value of imports shows a large decline in 1887, which is chiefly due to a falling-off in the United States trade, though a sensible decline may be also observed in the imports from other leading foreign states.

Foreign Imports and Exports.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	1,230,862	458,329	1883	2,139,789	1,591,900
1878	1,409,761	483,697	1884	2,218,662	1,355,640
1879	1,470,877	558,827	1885	2,437,746	1,956,055
1880	1,154,280	472,488	1886	2,160,056	1,467,367
1881	1,789,381	1,298,845	1887	1,606,369	2,036,641
1882	2,200,734	1,206,874			

THE UNITED STATES.

United State largest foreign market.

The United States are the largest foreign markets of the Colony, the value of both the imports and exports far exceeding that of any other country. The import trade has been marked by a very uniform rate of increase, and during the years 1885 and 1886 exceeded £1,000,000. In 1887, however, there was a marked fall in the amount of the import trade, the value falling from £1,018,773 to £693,420, or nearly one-third. The export trade has, on the other hand, varied considerably. The largest increase in any one year was in 1881, when the exports amounted to £694,314 more than the previous year, the increase consisting almost entirely of gold, which was exported to the value of £647,323. Similarly, the increase in 1885 over 1884 is due to the same cause—the export of gold in the former year amounting to £680,700.

Trade with the United States.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	481,565	108,273	1883	922,574	872,983
1878	622,261	128,805	1884	954,665	366,732
1879	546,630	211,206	1885	1,008,572	985,531
1880	387,056	172,648	1886	1,018,773	521,216
1881	587,865	866,962	1887	693,420	934,443
1882	886,171	676,598			

Class of goods imported from United States.

The imports comprise a large number of articles, amongst which the following are the most important, the values given being those for 1887 :—

Timber—undressed, dressed and worked up	£126,264
Hardware	54,941
Tobacco, cigars, &c.	45,820
Beer	22,793
Carriages, and carriage materials	19,233
Kerosene	30,992
Fish (preserved)	34,230
Watches and clocks	15,958
Machinery	28,468
Leather	19,787
Furniture	10,980
Agricultural implements	13,420

The other articles imported are mostly manufactured goods. In most years there has been a fairly large import of breadstuffs from the United States, and during 1886 the value of such imports was £96,216 ; in 1887, however, the value fell to £948.

Exports to America.

The exports to the United States are chiefly confined to a few articles of raw material, the produce of the Colony, the principal of which are gold, coal and shale, tin, wool, and kangaroo skins. No other goods are exported in considerable quantities. During the year 1887 the amount of export of the articles mentioned above was —

Gold, coin	£628,485
Coal and coke	165,899
Tin	81,988
Skins (chiefly kangaroo)	12,219
Shale	8,614
Wool	5,305

For some years past the export of gold to America has been very large, reaching the sum of £726,653 in the year 1885. This export commenced in 1880, and the value of the precious metal both coined and uncoined exported since the year named was—

Large export of gold to United States.

Gold Exported to America.

Year.	Value.	Year.	Value.
	£		£
1881	647,323	1885	726,653
1882	382,347	1886	229,137
1883	564,416	1887	628,485
1884	106,732		

The United States form one of the natural markets for the wool of the Colony; but, owing to the restrictions placed by the United States tariff upon its importation, the trade in this commodity is extremely limited.

BELGIUM.

The direct trade between this Colony and Belgium began in 1881, and may, to a large extent, be attributable to the International Exhibition held in Sydney during 1879–80. In the year mentioned, the combined imports and exports amounted to only £26,237, while in 1887 they had risen to £595,445, which cannot but be regarded as an enormous increase in so short a time. In point of value the Belgian trade of the Colony is larger than that of any other foreign country, the United States alone excepted, exceeding during 1887 that of Germany by £225,481, and that of France by £352,562.

Trade with Belgium.

The goods imported from Belgium comprise a large number of articles. Iron in its various manufactures, and in bars, plate and wire, glassware, candles, drapery, cigars, cement, and starch are all imported to some extent, though the trade in each commodity is subject to considerable fluctuation.

Principal imports.

The outward trade with Belgium is confined almost entirely to wool, though some tallow is also exported. During 1887, the

Belgium a large purchaser of N.S.W. wool.

amount of washed wool sent to Belgian ports was 1,028,324 lb., valued at £48,456, and 16,224,209 lb. of greasy wool of the value of £506,321, or in all, wool to the amount of £554,777. Belgium is, therefore, next to Great Britain, the largest purchaser of New South Wales wool; for, though the export both to Victoria and South Australia exceeds that to Belgium, it is merely nominal, as none of the wool is retained in these colonies for home use.

Trade with Belgium.

Year.	Imports.	Exports.
	£	£
1881	21,579	4,658
1882	39,951	21,659
1883	31,162	160,390
1884	74,904	326,488
1885	195,318	399,549
1886	173,831	424,938
1887	37,735	557,710

FRANCE AND NEW CALEDONIA.

French trade.

The French trade has developed considerably since 1881, as will be seen by the subsequent table. The increase is due almost entirely to the establishment of direct communication between this Colony and the Republic by the Messageries Maritimes Company, but it has been accompanied by a corresponding falling off in the trade with New Caledonia, the chief dependency of France in the South Pacific. For though in 1881 the total value of French imports and exports amounted to only £65,833, as against £242,883 in 1887, those of New Caledonia fell during the corresponding period from £372,926 to £207,888.

Class of goods imported from France.

Wearing apparel and drapery form the largest class of imports from France; the imports of drapery and silk amounted in 1887 to £39,680; of apparel, £6,441; and of boots to £10,039. Next in importance are wines and spirits—the import of the former amounted to £15,615, and of the latter to £41,743. Oil to the value of £4,711; tobacco and cigars, £1,910; watches and clocks, £4,115, and toys, £7,531—are the only other goods largely imported. Considerable quantities of French goods are imported from Great Britain; but the indirect trade in these will probably soon be superseded by direct trade, and the cost of commission and double handling thus saved to the Colony.

Wool chief export to France.

Wool forms the chief export to France. The value exported during 1887 was £74,872. Tallow to the value of £3,950 was also exported.

Trade with France.

Year.	Imports.	Exports.
	£	£
1881	64,118	1,715
1882	98,176	9,744
1883	211,722	24,786
1884	218,755	183,890
1885	345,231	142,104
1886	216,193	149,509
1887	157,732	85,151

New Caledonian trade.

As already pointed out, New Caledonia is an important market for the produce of the Colony, though its value has been considerably affected by the establishment of a regular communication between France and her dependency. The trade with New Caledonia reached its highest point in 1882, when produce was imported into New South Wales to the value of £273,370, and exported to the amount of £228,280. Since that year the imports and exports show a very considerable decline, as will be seen below.

Trade with New Caledonia.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	151,684	165,838	1883	152,096	212,528
1878	140,873	151,516	1884	107,509	210,552
1879	159,599	158,193	1885	82,181	153,094
1880	122,299	181,703	1886	64,952	111,332
1881	188,745	184,181	1887	70,676	137,212
1882	273,370	228,280			

GERMANY.

Trade with Germany.

A large trade has been maintained with Germany since 1879, when direct communication practically commenced, but the export trade is still comparatively small and variable, though a rapid increase may be anticipated from the facilities afforded by the North German Lloyd's line of steamers now trading between Hamburg and Sydney. The following list shows the values of the principal articles imported from Germany during 1887. The only other articles besides these, of which the import was considerable, were paper and stationery, turnery, starch, and glassware:—

Cement	£9,108
Musical instruments	22,216
Apparel, drapery, boots, &c.	59,473
Iron and iron manufactures, including hardware.	31,057
Spirits	26,259
Sewing machines	3,384
Tobacco and cigars	17,762
Beer	12,378
Fancy goods and toys	10,849
Watches and clocks	9,877

Wool chief export to Germany.

The exports consisted almost entirely of wool, the value of which, in 1887, was £88,458, out of a total export of £100,012. The remainder were chiefly ore and stone for treatment; quartz being exported to the value of £4,868.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1879	32,436	4,775	1884	337,881	43,979
1880	47,169	......	1885	372,557	29,511
1881	124,910	11,993	1886	361,612	54,471
1882	160,951	11,661	1887	296,952	100,012
1883	213,709	7,947			

CHINA.

Trade with China.

The only other country whose trade with New South Wales reaches a considerable value is China. The imports and exports credited to Hongkong, however, belong in reality to the country generally, and the diminution which is seen in the China trade since 1881, is to be attributed in no small degree to the transference of part of the trade from the ports of the Empire to Hongkong. Still, when allowance is made on this score, it will be found that the actual loss of trade is by no means inconsiderable. The main import from China is tea, and no perceptible decline is observable in the consumption of the article; but the total import has fallen off, owing to a decrease in the quantity required for re-export, and in this respect denotes a loss to the Colony. The direct export trade has never been large. Most of the goods intended for Chinese consumption pass through Hongkong, and do not appear as exports to China.

Small direct export trade.

Year.	Imports.	Exports.	Year.	Imports.	Exports.
	£	£		£	£
1877	316,441	42,490	1883	259,108	21,351
1878	245,263	26,054	1884	357,208	21,741
1879	350,725	33,210	1885	303,595	21,114
1880	358,129	14,844	1886	195,930	16,462
1881	466,830	19,758	1887	251,722	14,510
1882	358,783	28,958			

TRADE WITH ALL COUNTRIES.

Total trade.

The amount of imports and exports of each country, in proportion to the total, during the ten years which closed with 1887, is shown in the following tables. As already pointed out, the border colonies of Victoria and South Australia appear more advantageously than their importance warrants, owing to the large amount of trade merely passing through their territory for shipment to Great Britain, while the trade to the last named country, as shown on the table, is less than the truth, by the amount thus over-credited to Victoria and South Australia.

Imports—Percentage of the Imports from each of the Principal Countries.

Year.	British Possessions.							Foreign States.						
	Great Britain.	Victoria.	Queensland.	South Australia	New Zealand.	Other Colonies or Possessions.	Total British Possessions.	United States.	France.	Germany	Belgium.	China.	Other Foreign States.	Total Foreign States.
1877	43·57	17·04	16·67	5·46	1·50	7·46	91·70	3·25	0·13	......	0·20	2·13	2·59	8·30
1878	44·08	19·18	14·23	5·89	1·63	5·65	90·66	4·12	0·25	......	0·12	1·62	3·23	9·34
1879	46·53	15·40	15·21	4·97	1·98	5·77	89·86	3·77	0·36	0·22	......	2·42	3·37	10·14
1880	46·11	15·42	15·70	4·87	3·25	6·50	91·85	2·73	0·27	0·33	......	2·52	2·29	8·15
1881	51·08	13·73	12·35	3·94	2·68	6·04	89·82	3·34	0·36	0·71	0·12	2·66	2·99	10·18
1882	51·96	12·90	10·01	4·74	3·43	6·69	89·73	4·14	0·46	0·85	0·18	1·67	2·97	10·27
1883	49·36	13·99	13·71	3·90	2·71	6·36	90·03	4·29	0·98	0·99	0·14	1·20	2·37	9·97
1884	49·32	13·23	12·88	4·33	3·81	6·85	90·42	4·12	0·95	1·46	0·32	1·54	1·19	9·58
1885	50·07	13·96	12·27	3·75	3·79	5·90	89·74	4·25	1·45	1·57	0·82	1·28	0·89	10·26
1886	49·81	13·30	12·24	3·95	4·53	5·87	89·70	4·85	1·03	1·72	0·83	0·93	0·94	10·30
1887	42·53	15·40	16·77	6·70	4·02	6·05	91·47	3·69	0·83	1·58	0·20	1·33	0·90	8·53

Exports—Percentage of Exports to each of the Principal Countries.

Year.	British Possessions.							Foreign States.						
	Great Britain.	Victoria.	Queensland.	South Australia	New Zealand.	Other Colonies or Possessions.	Total British Possessions.	United States.	France.	Germany	Belgium.	China.	Other Foreign States.	Total Foreign States.
1877	44·72	28·96	13·60	2·62	3·65	3·04	96·59	0·80	0·10	...	...	0·31	2·20	3·41
1878	42·00	28·12	10·60	8·02	4·50	3·10	96·34	0·98	0·07	0·04	...	0·19	2·38	3·66
1879	39·20	31·81	11·00	5·88	4·86	2·96	95·71	1·60	0·17	0·03	...	0·24	2·25	4·29
1880	47·98	29·19	8·70	5·30	3·35	2·48	97·00	1·10	...	...	...	0·09	1·81	3·00
1881	46·36	24·85	12·02	2·80	2·62	3·40	92·05	5·31	0·01	0·07	0·03	0·12	2·41	7·95
1882	41·35	21·40	17·04	6·15	2·57	4·67	93·18	3·83	0·05	0·06	0·12	0·16	2·60	6·82
1883	48·78	20·59	11·42	4·80	1·76	4·80	92·15	4·30	0·12	0·04	0·80	0·10	2·49	7·85
1884	41·36	22·45	12·85	8·08	2·73	5·22	92·69	1·93	1·00	0·23	1·75	0·12	2·23	7·31
1885	43·54	20·60	12·98	4·86	2·20	4·15	88·33	5·88	0·85	0·17	2·40	0·12	2·25	11·67
1886	38·74	23·76	10·73	10·20	2·75	4·40	90·58	3·35	0·96	0·35	2·75	0·08	1·93	9·42
1887	37·67	25·80	10·82	9·40	1·62	3·67	88·98	5·05	0·47	0·54	3·01	0·08	1·87	11·02

Imports set down at Sydney value.

For Customs purposes imports are, as a general rule, set down at their Sydney value. Such, too, is the plan followed in regard to exports. Taking into consideration the circumstances of the Colony, the system is a just one; for, assuming that goods imported have to be paid for in goods exported, the imports, if valued according to the ruling prices at the port of shipment, would be undervalued at the port of arrival by the amount of the freight and charges incurred. In order, therefore, to establish a fair comparison between the imports and exports, each must be taken at the value in the Colony. Under normal conditions, the value of the trade inwards and outwards should be virtually equal. If the freight-earning vessels were owned in the Colony the excess would be on the side of the imports, but as comparatively little of the tonnage is owned in New South Wales, the freight earned is small. On the contrary, a certain quantity of goods must be exported to pay for the carriage of the goods imported, and the amount of such represents the difference in the value of the goods purchased by the exports, as they leave the country where they are produced, and the value of the same goods landed in this Colony.

Imports exceed exports.

The imports of the Colony, taken over a series of years greatly exceed the exports. The causes of this excess are chiefly two—the flow of British money to the Colony for investment, and the proceeds of loans floated by the Government for the purpose of carrying out public works. Were these importations to cease, the exports of New South Wales would exceed the imports; for, not only would the Colony be required to send out the value of the goods imported, with their freight to its shores, but also the amount of interest payable on loans, the earnings of money sent here for investment, and the incomes derived by persons living abroad, from property held in the Colony. Exact information has not been procurable on either of these heads, but some idea of the cause of the excess of imports may be gathered from the table given on page 148, showing the excess of imports in each year, and the amount expended from loans. It will be seen that during the past eleven years the aggregate excess of imports was not less than £26,858,947, while the expenditure from loans was £26,721,612.

Revenue from Import Duties levied on Tobacco, &c.

Year.	Manufactured.		Leaf.		Unmanufactured.		Cigars.		Cigarettes.	
	Duty per lb.	Amount collected.	Duty per lb.	Amount collected.	Duty per lb.	Amount collected.	Duty per lb.	Amount collected.	Duty per lb.	Amount collected.
	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£
1877	2 0	23,251	1 0	57,483	......	Included with leaf.	5 0	21,798	......	......
1878	2 0	26,114	1 0	58,211	......	" "	5 0	24,602	......	......
1879	2 0 2 6	27,236	1 0 1 3	38,326	......	" "	5 0	27,597	......	......
1880	2 0 2 6	24,824	1 0 1 3	43,555	......	" "	5 0	29,017	......	......
1881	2 0	30,672	1 0	56,269	......	" "	5 0	39,886	......	......
1882	2 0	31,113	1 0	52,762	......	" "	5 0	44,782	......	......
1883	2 0	33,411	1 0	41,739	......	" "	5 0	53,744	......	......
1884	2 0 2 6 3 0	44,248	1 0 3 0	15,889	1 0	*15,361	6 0	58,984	6 0	4,064
1885	3 0	50,240	3 0	1,567	1 0	33,624	6 0	65,889	6 0	8,962
1886	3 0	56,802	3 0	1,326	1 0	28,076	6 0	67,058	6 0	11,741
1887	3 0	75,603	3 0	1,052	1 0	27,611	6 0	63,799	6 0	13,373

* Part included with leaf.

Still wine is subject to an import duty of 5s. per gallon, and sparkling wine to 10s. per gallon. The import of the first named is less now than it was ten years ago, but owing to the increase in the duty in 1879 from 4s. to 5s. per gallon, the Customs revenue has been fairly maintained. The amount of still wine imported during 1887 was 141,581 gallons, on which £35,395 duty was paid. The quantity of sparkling wine on which duty amounting to £9,726 was collected was 19,452 gallons.

Australian wine checks import.

The growing favour in which Australian wine is held will probably have the effect of checking any considerable importations of foreign wine, and no large increase in the amount of duty, beyond that now received from such wine, can therefore be expected. The duty on sparkling wine was raised to 10s. per gallon in 1879, at which rate it now remains. The quantity imported shows a fair increase up to the end of 1885; but the recent general depression having probably limited the amount of money available for luxuries of this kind, the duty paid in 1886 and 1887 fell below that of some previous years.

Beer imported.

The import of ale and beer was larger during 1887 than in any previous year, reaching 2,126,314 gallons, of which 841,885 gallons were in wood, and 1,284,429 in bottle—the duty on the former being 6d. per gallon, and on the latter 9d. The total revenue derived from the import duty on beer during 1887 was £69,213. Amongst other alterations in the tariff was the imposition of an excise duty on beer made in the Colony. The duty is at the rate of 3d. per gallon, and was collected for the second half-year of 1887, and amounted to £63,565, the quantity on which duty was paid being 5,085,217 gallons. As a set-off against the duty thus imposed, those levied on hops and malt have been removed.

Tobacco duty.

The duties levied on tobacco imported into the Colony during 1886 were, on the manufactured article, 3s. per lb.; on tobacco for manufacturing purposes, 1s. per lb.; on the leaf, 3s.; and on cigars and cigarettes, 6s. The excise on tobacco made in the Colony was 1s. per lb., and on cigars, 2s. 6d. The excise duty on manufactured tobacco was, however, increased during 1887, and now stands at 1s. 3d. The following table shows the revenue obtained from the import duties on this article.

Excise on tobacco.

Excise duties were first levied on tobacco manufactured in the Colony in 1884, and the amount collected since then has been :—

1884	£68,000
1885	106,658
1886	102,212
1887	127,545

The revenue derived from cigars has been trifling, in only one year, namely 1887, reaching £1,000 ; thus :—

1884	£490
1885	863
1886	667
1887	1,284

It will be seen from the preceding table that the revenue derived from the imported leaf has steadily declined, its place being supplied by leaf grown in the Colony To meet this falling off, the excise duty levied on colonial-made tobacco entered for home consumption was increased, as already stated, to 1s. 3d. per lb. If the American leaf, which is subject to a duty of 1s. per lb., were used exclusively in the manufacture of tobacco in the local factories, the actual duty paid on the finished product would have been, previous to the alteration in the tariff, 2s. per lb., and 2s. 3d. since the alteration, as against 3s. for the imported article. Such, however, is not the case—large quantities of locally-grown leaf are used, and the absolute amount of duty paid on the tobacco made in the Colony was 1s. 3$\frac{3}{4}$d. in 1885, 1s. 3$\frac{1}{4}$d. in 1886, and 1s. 5$\frac{4}{10}$d. in 1887.

Revenue from tea.

The duty on tea has remained at 3d. per lb., and the amount of revenue per head derived from the duty has varied very little from year to year. The revenue received from this source for the last ten years was—

Revenue from Tea.

Year.	Amount.	Year.	Amount.
	£		£
1878	63,259	1883	75,719
1879	83,793	1884	100,053
1880	74,042	1885	98,915
1881	86,212	1886	105,979
1882	87,829	1887	106,815

Duty on sug

Refined sugar coming into the Colony is subject to a duty of 6s. 8d. per cwt., but the quantity of this class of sugar imported is comparatively small, amounting to 276 tons during 1887. Duty is levied on raw sugar at the rate of 5s. per cwt., but notwithstanding this duty, and the large area of the Colony adapted for sugar-growing, the imports are considerable. The question of sugar-growing in the Colony is discussed under the head of agriculture; but an inspection of the subsequent table, showing the amount of duty paid on raw sugar, will give a clear indication of the deficiency of production in the Colony during the last ten years.

Revenue from Raw Sugar.

Year.	Quantity.	Amount.	Year.	Quantity.	Amount.
	Cwt.	£		Cwt.	£
1878	265,178	66,295	1883	203,496	50,874
1879	269,312	67,328	1884	591,632	147,908
1880	228,171	57,043	1885	554,064	138,516
1881	187,551	46,887	1886	484,591	121,148
1882	182,356	45,589	1887	520,191	130,048

Duties on oth articles.

Specific duties are levied on other articles besides those mentioned, to the number of 49, according to the tariff of 1887; the articles which yield most revenue being dried fruit, rice, explosives, bacon and hams, cheese, butter, candles, cement, coffee, fish, galvanized iron, iron wire, condensed milk, kerosene oil, opium, salt, and timber.

Ad valorem duties of 5 per cent. were re-imposed, as abovementioned, during 1886, having been abolished for nearly fourteen years. It was intended that they should be levied for a period of three years, but after remaining in force for eighteen months they were again abolished from 1st of October, 1887.

The amount of revenue collected by the Customs, including excise, during each of the last ten years, is given below.

Revenue collected by the Customs Department during the Ten Years, 1877–87.

Particulars of receipt.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
	£	£	£	£	£	£	£	£	£	£	£
Wines and spirits	547,113	586,547	557,062	641,911	709,832	745,491	768,792	808,045	786,545	752,070	815,844
Ale and beer	35,666	33,864	37,747	31,567	34,579	41,574	46,972	53,200	61,202	69,097	132,778
Tobacco	102,532	108,928	93,159	97,396	126,827	128,657	128,894	207,037	207,804	267,882	310,268
Tea	67,370	63,259	83,793	74,042	86,212	87,829	75,719	100,053	98,915	105,979	106,815
Coffee and chicory	9,618	9,355	9,037	10,983	10,610	10,850	10,638	13,406	13,543	13,188	13,127
Sugar	54,139	67,748	69,327	60,055	50,949	49,234	54,175	153,894	144,448	125,860	134,913
Methylated spirits	804	1,150	1,038	1,102	1,341	1,673	1,776	1,980	2,116	2,407	3,281
Opium	9,173	9,349	10,514	10,940	13,068	12,961	14,135	20,413	23,075	22,148	21,683
Rice	9 738	11,325	13,585	10,300	15,069	15,224	13,855	17,193	15,835	17,533	18,478
Malt and hops	11,870	13,710	13,281	13,390	15,753	18,939	17,266	18,304	20,410	30,366	13,424
Dried fruits	43,403	37,993	32,382	37,027	57,857	51,522	50,597	62,017	54,400	50,919	56,347
Specific duties	167,559	174,742	167,770	176,162	244,345	280,015	266,579	336,119	380,673	429,157	351,300
Ad valorem	......	......	......	......	......	......	......	......	......	277,227	226,743
Pilotage	15,358	17,776	18,005	14,462	20,463	26,455	30,508	32,124	31,739	31,716	28,628
Harbour and light rates	9,073	10,352	9,960	8,197	10,330	13,553	14,599	16,249	16,389	15,610	14,676
Removal dues	2,845	3,024	2,997	2,022	2,698	4,034	4,377	4,319	4,290	4,703	4,297
Tonnage and wharfage rates	......	......	......	6,974	14,177	8,909	7,096	7,895	7,396	6,973	7,059
Tax on Chinese	......	......	......	......	960	8,520	12,200	10,740	10,600	12,840	17,980
Bonded warehouse license fees	5,580	5,907	6,247	6,097	7,031	6,350	6,565	6,961	7,164	8,662	8,766
Miscellaneous receipts	2,062	2,763	1,346	1,289	2,064	2,573	3,220	6,363	5,741	6,629	5,070
Total	1,093,903	1,157,792	1,127,250	1,203,916	1,424,165	1,514,263	1,527,863	1,876,321	1,952,265	2,250,975	2,291,477

Though more lightly taxed through the Customs than any of the other Australasian Colonies, the revenue derived from this source is larger than that of any other, with the exception of Victoria. During 1887, the revenue derived from the Customhouse, exclusive of excise, harbour-dues, &c., in each Colony in Australasia was—

	£
New South Wales	2,011,947
Victoria	2,192,390
Queensland	1,084,709
South Australia	467,889
Western Australia	170,972
New Zealand	1,251,651
Tasmania	274,065

PART X.

Land and Agriculture.

Various systems of land alienation.

THE systems adopted for the settlement of an industrial population on the lands of New South Wales have been many and widely different, according to the various stages of the Colony's progress and development. Commencing with grants, frequently of very extensive area, to military and naval officers and free immigrants, at a nominal rental of one peppercorn a year, the system was changed to that of sale, with or without competition. As the extent and value of the public domain became better known and appreciated, it was found absolutely necessary to legislate not merely for the day, but for the future. The question of land alienation was therefore approached in an entirely new spirit; the result being the passing of the Crown Lands Act of 1861, under the leadership of Sir John Robertson. Before this Act became law, the conditions of settlement rendered it difficult for men of small means to establish themselves with fair chances of success. The new measure aimed at facilitating the settlement of an industrial agricultural population, side by side with the pastoral tenants of the Crown, and, with this view, the Act introduced a principle entirely new to the land legislation of the Colony, namely, that of free selection, in limited areas, before survey. To this privilege was attached the condition of *bonâ fide* residence, and the land was to be sold at a fixed price, payable by instalments, or partly remaining at interest. The principle of unconditional sales was, however, maintained, and during the twenty-three years the Act of 1861 was in operation, there were sold 23,470,140 acres conditionally, and 15,572,001 acres by auction, improvement purchase, or otherwise without conditions; the total area alienated being 39,042,141 acres. In a very large number of cases the land

Crown Lands Act of 1861.

selected, or purchased, reverted to the Crown, so that the absolute area sold, or in process of sale, when the existing Act came into force, amounted to only 32,819,023 acres, besides 7,338,539 acres alienated previously to 1861.

CROWN LANDS ACT OF 1884.

Free selection before survey.

The Act of 1861 was, after many amendments, finally superseded by that of 1884, which, though differing widely from the former Act in many important particulars, maintained the principle of free selection before survey, but with one essential difference. Under the original Act, the whole area of the Crown lands of the Colony were thus thrown open to free selection, and the pastoral lands, held by tenants of the Crown, were not exempted from the operation of the law. Thus were created considerable difficulties between the two principal classes of settlers—the squatters and the selectors. While maintaining the principle of selection before survey, the aim of the new Act was to give fixity of tenure to the pastoral lessees and obtain a larger rental from Crown lands, at the same time restricting the area sold unconditionally. The Act became law on the 1st January, 1885.

Territorial divisions under this Act.

For the purposes of the Act, the whole Colony was subdivided into three natural divisions, each of which was further subdivided into various land districts, and one or more such districts form local divisions, the administration of which is entrusted to a Local Land Board, composed of a chairman and not more than two assessors. In each land district resides a land agent, whose duty is to receive all applications for land, in accordance with certain regulations having the force of law. The conditions of alienation and pastoral occupation of Crown lands differ in each of the three divisions above named.

EASTERN DIVISION.

Boundaries and area.

The eastern division has an area of 60,452,000 acres, and includes a broad belt of land comprised between the sea-coast and a line nearly parallel thereto. This line starts from a point midthrown open to selection under different terms as to payment, and with or without the condition of residence. But, in such special areas, the price of the land cannot be less than £1 10s. per acre, and the maximum area of one such purchase is fixed at 160 acres.

Price and limit of area.

Central Division.

Boundaries and area.

The central division of the Colony embraces an area of 55,460,000 acres, extending from north to south between the western limit of the eastern division and a line starting from a point on the Macintyre River, where it is crossed by the 129° of east longitude, and following this river and the Darling to the junction of Mara Creek; thence along that creek to the Bogan River, and across to the river Lachlan, between the townships of Euabelong and Condobolin, along the Lachlan to Balranald, and thence to the junction of the Edward River with the Murray, on the frontier of Victoria. The central division thus embraces the upper basin of the Darling River in the northern part of the Colony, and portions of those of the Lachlan, the Murrumbidgee, and the other affluents of the Murray. This territory has, hitherto, been mainly given over to pastoral occupation; but there is every warrant for supposing that agricultural and pastoral pursuits could successfully be carried on side by side over a considerable part of it.

Conditional purchases and leases.—In this division land may be conditionally purchased under the same terms as to residence, fencing improvements, price, and mode of payment as required in the eastern division; but the area of an individual selection has been fixed at 2,560 acres, with a corresponding increase in the area of the conditional lease to three times this area, and with the same preferent right of purchase at the expiration of the first term of the lease. The area which may be purchased without residence, as well as the conditions in regard thereto, are the same for the central as for the eastern division.

Limit of area and other conditions.

yearly rental fixed by the Local Land Board, subject to the approval of the Minister, which, however, cannot be of less than 2d. per acre, and under conditions of fencing within two years of the date of the confirmation of the application, the one fence, however, being allowed to enclose both the conditional purchase and the lease. At the expiration of five years, should the selector not use his preferent right of purchase, an extended lease of a further period of five years may be granted upon application, but without preferent right of purchase, and at the end of the extended term the land reverts to the Crown. In the event, however, of any other person selecting such land, he must pay the original holder the value of the improvements thereon, as assessed by the Local Land Board.

Payment for improvements.

Non-residential conditional purchase.—Land may be selected free from conditions as to residence, but the terms under which land may be thus taken up are more stringent that when the purchase is a residential one. In the first place, the area is limited to a maximum of 320 acres, and no additional conditional purchase may be made except such additional areas, which, together with that of the original purchase, do not exceed this maximum, and no conditional lease be granted. The property must be fenced in within twelve months after survey, the value of fencing not being included in that of the permanent improvements, which must be made within five years after survey, to the extent of £1 per acre. Moreover, the price demanded by the State has been fixed at £2 per acre, the deposits and subsequent instalments being likewise double the sum required to be paid in the case of ordinary conditional purchases. Lastly, no person under 21 years of age may select under this clause, and no person having already taken up a non-residential selection, may be permitted to make any other conditional purchase whatsoever under this Act.

Limit of area.

Conditions of fencing and improvements.

Price per acre.

Special areas may also be reserved from the operations of the ordinary conditional purchase clauses of the Act, and may be be subdivided and let by auction, or tender, as a pastoral lease, or may be resumed by the Government, and all improvements on the land at the expiration of the lease become the property of the Crown, without compensation.

Deposit and term.

Occupation licenses.—Besides the leases for a fixed period thus granted to run-holders of half the unalienated portions of their runs, licenses may be granted to occupy resumed areas or vacant lands. In this case the application for such occupation license must be made at the time of applying for the pastoral lease, and a deposit made at the rate of £2 per section of 640 acres, part of which sum may be refunded when the license fee is fixed by the Minister, after appraisement. These occupation licenses are granted only for a term of one year, and do not exempt the land from the operations of other clauses of the Land Act.

Limit of area.

Condition of occupation and fencing.

Term of lease.

Homestead leases.—In the western division, homestead leases may be granted within the resumed areas or vacant lands. The portion which may be taken up under this clause cannot be less than 5,760 acres, or more than 10,240 acres. These leases are granted upon application at the Lands Office and on payment of a deposit equal to 1d. per acre of the area applied for. The applicant must enter into occupation within ninety days after the survey of the lease, and reside thereon for a period of at least six months during each of the first five years of his lease. During the first two years of occupation, the lessee must fence the whole of the lease, with a fence according to a prescribed design. On the expiration of the term of fifteen years, above mentioned, the homestead lease may be again leased as such by auction or tender, but the out-going tenant is not entitled to compensation for improvements. Applicants for homestead leases are, however, required to pay for existing improvements on the land applied for, at a valuation made under the direction of the Local Land Board. Holders of pastoral leases are not permitted to hold homestead leases, neither can any persons hold, or cause to be held on their behalf, more than one such lease.

Scrub leases.—Besides pastoral and homestead leases, other leases are granted under the Act for special purposes. On the recommendation of the Local Land Boards, the Minister may declare any Crown lands wholly or partly covered with scrub, or noxious undergrowth to be scrub land, and such may be leased for a term not exceeding fifteen years, and in areas not exceeding 10,240 acres, and not less than 640 acres to any person, subject to an annual rental of 2s. 6d. per section of 640 acres for the first five years of the lease, 5s. for the next five years, and £1 for the remainder of the term. In special cases the Minister may, on the recommendation of the Land Board, even forego the rent, for any period not exceeding five years, but the lessee is under obligation to clear and destroy the scrub.

Minister may proclaim scrub lands.

Limit of area and terms of tenure.

Annual leases are also granted for pastoral purposes in areas not exceeding 1,920 acres for any Crown lands, by auction or tenders, at a minimum upset annual rental of £2 for every section of 640 acres.

Annual leases.

In addition to the various forms of alienation and occupation of the Crown lands described above, land may be sold in the three divisions of the Colony under the following provisions:—

Auction sales.—Crown lands, not exceeding 200,000 acres in the aggregate for the whole Colony in any one year, may be sold by auction. The upset price for such land is notified by the Minister, and is fixed by law at not less than £8 per acre for town lands, £2 10s. per acre for suburban lands, and £1 per acre for other lands. A deposit equal to 25 per cent. of the purchase money is required, and the balance must be paid within three months after the date of sale.

Sales by auction.

Purchases on gold-fields.—On gold-fields any person in duly authorized occupation under the Mining Act may purchase the portion so occupied, without competition, in virtue of the improvements made on the land, at a price to be fixed by the Land Board, being not less than at the rate of £8 per acre for town lands, and

Land Board fixes price.

£2 10s. for suburban or other lands, or £2 10s. for any area less than 1 acre; but the maximum area which may be so purchased is fixed at one quarter of an acre for town lands, and 1 acre for suburban and other lands.

Special sales, without competition, in the case of rescission of water frontages, reclamation of land by proprietors of adjoining lands, and in other special cases, may also be made under conditions which are at the discretion of the Minister for Lands in the metropolitan district, and of the Local Land Boards in the other districts.

Special leases.—The Act also contains additional clauses for special leases, in areas situated within the boundaries of gold-fields, and on the shores of the sea, lakes, harbours or rivers, as well as for cutting and removing timber from Crown lands.

LAND REVENUE.

Revenue from Crown lands.

A statement of the revenue derived from the public estate during previous years will be found in a subsequent part of this volume. During 1887, the gross revenue received by the Treasury amounted to £2,378,791. Of this sum £1,221,781 was derived from sales, both conditionally and otherwise, the details under each head being—

Revenue from Sale of Public Lands.

Auction sales	£169,400
Improvement and special purchases	168,222
Deposits on conditional purchases	92,203
Instalments on conditional purchases (inclusive of interest)	562,019
Balances on conditional purchases	96,562
Miscellaneous purchases	10,285
Total, land sales	£1,098,691
Interest on land conditionally purchased	123,090

Pastoral occupation.

The annual land revenue derived from pastoral occupation was £1,079,566, distributed as under :—

Land under Pastoral Occupation, with Rent paid during 1887.

No. of Holdings.	Description.	Area.	Revenue obtained.
		Acres.	£
1,611........	Pastoral leases	67,127,040	644,279
1,472........	Occupation licenses..................	60,186,240	329,097
4,860........	Special leases	3,720,947	18,118
302	Homestead leases......................	2,932,480	19,662
6,872........	Conditional and annual leases ...	4,802,801	67,955
......	Quit Rents	....	455
	Total........................	138,769,508	1,079,566

Gross transactions during 1886.

In addition to the revenue derived from sales and pastoral occupation, a sum of £43,964 was received from mining leases, miners' rights, mineral leases, and court fees; and under the head of miscellaneous receipts, such as licenses to cut timber, fees on deeds, transfers, fines, &c., a further sum of £33,480 was obtained, making the gross total from all sources £2,378,791. This sum does not, however, represent the whole value of the proceeds from sales and occupation. On conditional purchases a deposit only of 10 per cent. is required, while on auction purchases 25 per cent. is paid immediately. The balance under these heads during the year amounted to £925,324, so that the gross transactions of the Lands Department for 1887 may be thus summarised :—

Transactions of Lands Department during 1887.	Amount.
	£
Revenue received from Sales	1,221,781
,, for Occupation..	1,079,566
,, under Gold-fields Act..................	43,964
,, Miscellaneous	33,480
Total revenue received ;.........................	2,378,791
Balance due on conditional purchases made during the year......	829,827
,, auction sales made during the year................	95,497
Total value of transactions during 1887... ..	3,304,115

Revenue received since 1862.

Since the year 1862, when the Lands Alienation Act of 1861 came into force, there has been received into the National Treasury from the proceeds of lands alienated the following sums :—

Description of Land Alienated.	Amount received.
	£
Lands sold in fee-simple, from 1st January, 1862, to 31st December, 1887	15,116,709
Deposits, interest, and balance of purchase money on lands sold conditionally from 1st January, 1862, to 31st December, 1887	12,802,876
Total amount paid into the National Treasury ..	27,919,570

Amount due to the State.

At the close of 1887, there remained due to the State, on account of unpaid balances on land conditionally purchased, a sum of about £12,178,000 ; so that the total amount of sales from 1862 to the end of 1887 was over £40,000,000 in all. During the same period the area of land disposed of was 34,760,000 acres ; the average rate per acre for lands of all kinds sold was, therefore, £1 2s. 11d.

Area unalienated.

The total area of land sold in fee-simple, and for which deeds were issued to the close of 1887, was 22,016,501 acres ; the area granted was 3,110,150 acres ; and the area in process of alienation under the system of deferred payment was 16,624,323 acres, making a total of 42,099,373 acres, there remained then a balance unalienated of 153,782,777 acres, The area leased to pastoral tenants comprised 138,769,508 acres, so that out of the total area of the colony, viz., 195,882,150 acres, there were either leased or sold 180,868,881 acres, leaving a balance of only 15,013,269 acres, representing chiefly the land reserved alike from sale and lease, as well as the area of country not suitable for settlement.

HOLDINGS.

Holdings over 1 *acre.*—Excluding land held by the tenants of the Crown, there were on the 31st March last 46,142 holdings of more than 1 acre in extent. Twelve years previously these holdings numbered 39,639. The increase amounted to 16·4 per cent., while the area comprised in the holdings advanced from 18,210,796 to 36,817,491 acres, or 102 per cent. There has been a very marked tendency to increase the area of individual holdings during the past ten years, and this tendency is visible during the whole period over which the records extend, as may be seen from the accompanying table. Since 1886, however, the reverse has been the case. This may be easily accounted for, as a result of the stoppage of the auction sales of Crown lands, which were one of the main features of the land policy inaugurated in 1861.

Increase in area of holdings.

Average Area of Holdings.

Year ended 31 March.	Average size of holding.	Year ended 31 March.	Average size of holding.
	Acres.		Acres.
1876	315	1883	772
1877	459	1884	817
1878	481	1885	813
1879	564	1886	862
1880	569	1887	817
1881	691	1888	798
1882	703		

The increase shown between the first and last years of the above series amounted to 483 acres in the average extent of holdings, which are now 153 per cent. larger than they were in 1876. This result is, in a certain measure, due to the facilities afforded by the improvement clause of the Crown Lands Act of 1861, and its subsequent amendments, permitting, as they did, the purchase at the rate of £1, and subsequently at £1 5s., per acre, in sections from 40 acres to 640 acres, of areas which pastoral occupiers had improved to the extent of £1 per acre. But the result is attributable also, and in a large degree, to the vast areas of Crown lands offered for sale at public auction, which almost invariably fell into the hands of the Crown tenants on whose runs they were situated. Up to the close of 1882, when a check was first given to this form

Facilities afforded by Act of 1861.

of alienation, there had been disposed of by public auction 10,995,120 acres, whilst the area acquired under the improvement clause amounted to 2,305,938 acres. At the date above mentioned, a total area of 35,478,346 acres had been alienated throughout New South Wales, of which 29,113,246 acres were sold subsequently to the Act of 1861, and of this area 13,301,058 acres, or a little more than 45 per cent., were parted with under the auction sales and improvements clauses, in the proportion of nearly five acres sold at auction to one bought under the improved purchase clause.

Comparative size of holdings in the various electorates.

The next table shows the average area of holdings in various electorates, and it will be seen that in the Riverina district the average sizes of holdings reach the largest figures, being 7,761 acres in the electorate of Wentworth, 6,150 acres in that of the Murray, 5,740 acres in the Balranald, 2,879 acres in the Murrumbidgee, and 1,990 in the Hume electorates, or a mean of 4,924 acres in the whole district. The electorates of Gunnedah, the Gwydir, and Bourke closely follow, with the respective averages of 3,471 acres, 2,018, and 1,550 acres.

Small area of holdings in early settled districts.

In the semi-pastoral and semi-agricultural districts of the central division of the Colony, the average size of the holdings is much smaller, Grenfell, Queanbeyan, and Monaro averaging 1,484, 1,092, and 991 acres respectively. In the eastern division, and in that part of the Colony which was first settled, comprising the valleys of the Hawkesbury, Nepean, Hunter, and Shoalhaven Rivers, and the country around Goulburn and Bathurst, the area of holdings becomes further reduced, and, immediately around the centres of population, the average becomes still smaller. Thus in the electorates of Argyle, East and West Macquarie, Orange, Patrick's Plains, and the Richmond and Eden, the averages lie between 723 and 329 acres, while, in those of Kiama, Hawkesbury, Central Cumberland, and Goulburn, they fall to between 113 and 36 acres. The Upper Hunter is an exception, as the average size of holdings there reaches the high mean of 1,239 acres.

Average area of holdings.

erage area of Holdings in the various Electoral Districts in the year 1887–88.

lectoral Districts.	Area.	Electoral Districts.	Area.
	Acres.		Acres.
	443	Kiama	113
	654	Macleay	169
ld	5,740	Macquarie East	372
	1,438	,, West	329
a	838	Maitland East	158
	1,550	Molong	617
ood	429	Monaro	991
n	270	Morpeth	75
r	622	Mudgee	341
e	126	The Murray	6,150
Cumberland	66	The Murrumbidgee	2,879
n	363	The Namoi	1,880
	432	The Nepean	152
	1,226	Newcastle	138
anes	596	New England	846
ster	986	Northumberland	195
rn	36	Orange	335
n	193	Patrick's Plains	723
ll	1,484	Queanbeyan	1,092
gai	1,160	The Richmond	354
dah	3,471	Shoalhaven	174
r	2,018	Tamworth	581
y	310	Tenterfield	353
gs and Manning	188	Tumut	444
sbury	112	Wellington	590
	1,990	Wentworth	7,761
r	174	Wollombi	201
Upper	1,239	Yass Plains	725
rra	130	Young	925
ll	741		

Comparative increase of holdings.

nparing the number of existing holdings of various sizes with of the year 1879, when the particulars were first recorded, l be found that those under 15 acres have increased 50 per ; those from 15 to 200 acres have advanced very slightly, the se being only 5 per cent. Between 200 and 400 acres, the er of holdings also shows a very small increase; those from 1,000 acres increased 48 per cent.; from 1,000 to 2,000 the increase was 73 per cent.; from 2,000 to 10,000 acres, s 83 per cent.; while in the largest class of holdings, from 0 acres upwards, the increase in number has been nearly 90 per cent. during that period of nine years. The subjoined table shows the number of holdings in various classes in each year of the period named.

Holdings of Various Sizes.

Acreage.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
Under 15 acres	4,974	5,550	5,186	5,124	5,154	5,409	5,877	6,512	7,028
15 to 200	21,302	20,645	20,361	20,007	20,161	20,998	21,167	21,288	21,651
200 to 400	6,199	5,854	5,753	5,760	5,969	6,363	6,285	6,382	6,481
400 to 1,000..........	4,964	4,833	4,959	5,559	6,031	6,497	6,617	6,792	6,778
1,000 to 2,000	1,212	1,467	1,470	1,540	1,667	1,886	1,811	1,948	2,010
2,000 to 10,000	940	1,229	1,176	1,297	1,350	1,413	1,406	1,458	1,618
10,000 and upwards ..	327	414	449	463	461	513	563	552	566
Total........	39,918	39,992	39,354	39,760	40,793	43,079	43,726	44,932	46,132

Holdings in vicinity of towns.

The holdings under 15 acres in extent are, generally speaking, in the vicinity of towns, and consist mainly of gardens or orchards, and the increase of 50 per cent. is what would naturally be expected from the increased demand for their produce by a large population. The least satisfactory feature in the table is the stationariness of the number of holdings of moderate size. In 1878, the total holdings having an area from 15 to 400 acres, amounted to 26,273; in the following year, they were 27,501; and in 1887–8, only 28,132. On the other hand, the larger holdings have increased to a remarkable degree, so that, at the close of the year 1887, there were 10,972 holdings of more than 400 acres in extent, compared with 6,938 in 1878, or an increase of 58 per cent. in number in that short period. The figures relative to the number and extent of holdings over 10,000 acres in area are still more remarkable, as they show that at the end of 1887 there were 566 holdings of more than 10,000 acres each, comprising together 19,170,765 acres, 17,826,548 acres of which were freehold, and 1,344,217 acres held under lease from private persons. This large extent of territory forms about six-tenths of the occupied lands, exclusive of what is held under lease by the tenants of the Crown, and represents more than half the entire alienated lands of the Colony. This enormous area is in the hands of only 566 persons. It has not been found possible to determine the number of holdings exclusively upon lease for the present year, nor their average extent; but an inspection of the returns is sufficient to show that the bulk of the leaseholders occupy farms of less than 200 acres.

Total area in cultivation.

In the year 1876, the total area of land under cultivation amounted to 451,138 acres, or less than three-quarters of an acre per head. On the 31st March, 1888, that is in twelve years, the area under cultivation had risen to 1,042,394 acres, equivalent to nearly 1 acre per head of the population of the year. This is not a large increase, considering the enormous alienation of land which has occurred in the interval and the progress made by some of the neighbouring colonies, still it amounts in the aggregate to 131 per cent., or 33 per cent. per head, and taken in conjunction with the increase in production, which will hereafter be indicated, it tends to show that the Colony is advancing towards independence in the matter of food production.

Enclosed land

The area of unenclosed land in 1876 amounted to nearly two-fifths of the whole area of the holdings; but, in the beginning of 1888, the proportion had fallen to considerably less than one-tenth, the area unenclosed at that period being only 3,328,197 acres out of a total of 36,817,491 acres occupied. This result is due partly to the operation of legislation, and partly to the saving of labour which fencing enables occupiers to effect.

SOIL AND AGRICULTURE.

Soils adapted for the produce of many climes.

There is found in the Colony of New South Wales so great a variety of soils and climate that almost any kind of crops, whether specially the produce of temperate, and even cold climates, or of sub-tropical regions may be grown. The nature of the soil varies greatly, according to the geological formation in different parts of the Colony; but, except in the inaccessible or rugged portions of the mountain chains, and the more arid portions of the north-western districts, the soil is almost everywhere susceptible of cultivation. The area absolutely unfit for occupation of any sort has been roughly estimated at less than 5,000,000 acres, and it may be said that the greater part of the area adapted for settlement is also in some form or another capable of being cultivated. The question of the success of agricultural operations in New South Wales is, however, altogether independent of the mere fitness of the soil for cultivation. So far, experience has shown that an irregular rainfall and a want of uniformity in the seasons, which are the chief characteristics of the climate of a large part of the interior, are a great drawback to the success of agricultural settlements. Hitherto the principal industry of the Colony connected with its soil has been its occupation for grazing, and the pastoral interest has absorbed the energy of the colonists to so great an extent that agricultural pursuits have been in no slight degree neglected. Such neglect must necessarily be corrected in time, and there is every indication that the question will soon receive ample attention.

Rich soil of coastal valleys.

The portion of the valleys of the coastal rivers adapted for agriculture, owing to the confined nature of their basins, is limited, but nowhere could there be found richer soil than along the lower reaches of these rivers. The brush lands of the Tweed, Richmond, Clarence, Macleay, and Manning are proverbial for the richness of their soil, and the sandy alluvial formations of the Hunter and the Hawkesbury valleys have been cultivated for nearly a hundred years without rest, being enriched periodically by fluvial inundations. The valleys of the southern rivers of the coast district are not less rich, and along the banks of the Shoalhaven, Clyde, Tuross, and other streams are found unmistakable evidence of thriving industry.

The variety of climate experienced in a region extending through 8 degrees of latitude, from 29 degrees to 37 degrees south, of necessity causes a corresponding variety in the kinds of produce which may be successfully grown.

Localities where principal crops are grown.

Maize is grown in almost every part of the coastal region, along the river valleys, especially north of Sydney, and yields an abundant return. Sugar-cane is cultivated only on the northern rivers, very little being raised southward of the Macleay. Wheat is grown in the Hunter valley to some extent, but not in the country further north. In the southern district, although the little wheat raised shows a comparatively high return, the extent of land cropped is too small to enable a reliable inference to be drawn as to the true capabilities of this rich district. The climate of the northern coast is particularly favourable to the growth of semi-tropical products, especially sugar-cane, coffee, and tobacco, and in the Hunter valley the vine finds a natural home.

Soil suitable for fruit-trees.

The soil of the coastal region is almost everywhere suitable to the growth of fruit-trees, both semi-tropical and European. Oranges, lemons, shaddocks, and other varieties of this class, thrive well on all parts of the north coast, and nowhere better than in the Wianamatta formations about Parramatta, and in the valleys of the Hawkesbury, Nepean, and Parramatta Rivers. The cultivation of these fruits, as well as that of grapes for the table, peaches, apricots, and other varieties of European fruit, is indeed the principal industry of the agriculturists in the vicinity of the metropolis; and in many places where the soil is not adapted to the growth of cereals, fruit-trees succeed well, and handsomely repay the cost of cultivation.

Suitability of table-land for European cereals.

On the high plateau of the Great Dividing Range, a variety of soil is also met with, and there is much rich agricultural country, especially suited for the cultivation of wheat, barley, oats, and other agricultural products of cold and temperate regions. Notwithstanding the drawbacks in the shape of uncertain seasons and variable rainfall, the results obtained in the cultivation of cereal crops in the rich soils of the Monaro, Tumut, Bathurst, Wellington, Mudgee, and New England districts, on the mountain plateaux, are certainly encouraging.

Alluvial deposits.

In the western division of the Colony the alluvial deposits extending along the course of the great rivers which carry the drainage of the larger portion of the Colony of New South Wales to the waters of the Murray, have formed a soil of excellent quality, and the cereals which form the more considerable items in the sustenance of mankind might be grown in immense quantities were the rainfall more abundant and regular. Attempts have been made on small patches of country here and there to test the agricultural qualities of the soil, with the result that in years of abundant and regular rains the crops have been magnificent, but in times of drought the returns have been as scanty as in favourable seasons they have been plentiful. Notwithstanding this drawback, the cultivation of cereals in the Murray or Murrumbidgee valleys is greatly on the increase, and in no other part of New South Wales can there be noticed a greater advance in agricultural settlement, except perhaps in the Richmond and Clarence district, bordering the north coast of the Colony. It may be confidently asserted with regard to the Riverina, that wherever it may become practicable to conserve water, or to establish an intelligent system of irrigation, the soil will repay with a bountiful harvest the labours of the agriculturist. Over what area systematic irrigation may be carried on has not yet been ascertained, though possibly this may not prove to be very considerable, owing to the comparatively small volume of the rivers whence the water must be obtained, and the irregularity of their flow. The physical formation of New South Wales has been described elsewhere. It will have been noticed that it differs greatly from any other country where artificial irrigation has been practised on a large scale, and that the absence of mountain ranges capped with perpetual snow, forming natural and inexhaustible reservoirs, is a marked peculiarity of the country.

Practicability of irrigation.

CULTIVATION.—PRINCIPAL CROPS.

The principal crops grown in the Colony are wheat, maize, oats, barley, potatoes, sugar-cane, tobacco, grapes, oranges, and other fruits. The quantities produced in the year ended 31st March, 1888, and the value of each crop respectively are as follows:—

Quantities and value of produce.

Principal Crops cultivated.	Produce.	Value.
Cereals :—	Bushels.	£
Wheat	4,695,849	743,509
Maize	4,953,125	577,865
Barley	84,533	12,680
Oats	394,762	41,121
Other grain	24,036	3,605
Hay :—	Tons.	
Wheat	70,392	334,362
Oats	96,126	456,598
Barley	3,641	12,743
Lucerne and grass	60,438	151,193
Green food for cattle	....	90,193
Potatoes	61,455	199,729
Sugar-cane	273,928	164,356
Tobacco	Cwt. 23,465	76,652
Grapes for wine and brandy	Gals. 666,382	133,998
,, table use	Tons. 2,276	53,107
Oranges	Acres. 8,875	266,250
Orchard and market garden produce	20,677	381,575 433,120
Minor crops	4,252	19,134
Total value of produce £	....	4,151,692

NOTE.—The values given are those at the places where the produce was grown.

WHEAT.

Principal centres of cultivation.

In the early days of settlement, the Hawkesbury River Valley and the country adjacent to the towns of Parramatta, Liverpool, Penrith, Camden, and Maitland were the centres of considerable wheat growing. Unskilful farming, and the consequent exhaustion of the soil, with the attendant evils of rust, smut, and other diseases, caused these districts to be abandoned little by little as wheat country, and on the discovery of the Bathurst Plains, their importance at once ceased. The districts of Bathurst, Goulburn, Gundagai, Tumut, Young, Monaro, and New England were each in turn occupied by agriculturists, and the suitability of their soil and climate, as well as that of the whole of the mountain plateau, for the growth of this cereal became definitely established.

Cultivation very irregular.

The cultivation of this grain during the past thirty years has been very irregular. For some years prior to 1867, the area of land under crop remained almost the same from year to year, being little more than 125,000 acres. In 1867, however, the wheat area had increased to 175,000 acres, and at that acreage it remained practically unaltered for twelve years. Then, again, more land was laid under wheat, and in 1878–9 the area had increased to 233,252 acres. Since then the area of land under this cereal has been greatly extended, and during the year 1887–8 there were reaped 389,390 acres, an area larger than in any previous years; and an increase of 51,660 acres, or 15·29 per cent. above the area under this grain crop in 1886. Under favourable circumstances of temperature and rainfall, the highest average return obtained in the Colony during the last twenty-seven years, viz., 17·37 bushels per acre, was during 1886–7; the season 1887–8, though announcing itself favourably, has not given so good a result, the production of wheat having fallen to 12·06 bushels per acre. The average yield during the whole of the period, which extends from the date of the passing of the first Crown Lands Act to the season which ended on 31st March, 1888, was 13·18 bushels, the lowest

Average yield.

yield being 6·75 bushels, obtained in the season 1870–71, the most bountiful, 17·37 bushels per acre, gathered during 1886–7. During the first ten years of the period named, from 1861 to 1870, the yield per acre appears to have been comparatively a small one, having averaged only 10·70 bushels. Thence followed a period of fair seasons, extending over fourteen years, when the average fluctuated between a minimum of 12·87 bushels obtained in the season of 1874–5, and a maximum of 16·43 in the season 1876–7, averaging 14·94 bushels per acre for the whole period.

The season 1886–7 was, in all respects, an exceptionally good one for wheat cultivation; but that of 1887–8 did not fulfil expectations, the production having fallen below the average recorded for the period above mentioned, and being 18·95 per cent. below that of the previous ten years, which is calculated at 14·88 bushels per acre. The prospects of the coming season do not appear quite so encouraging as might be desired, the winter of 1888 having been so far a remarkably dry one, especially along the coast, and throughout the principal wheat districts of New South Wales. Ploughing operations have been retarded, or much interfered with, owing to this cause; and the excellent effects produced by the considerable volume of rain which fell during the years 1886 and 1887, permitting agricultural operations to be carried on over areas which the dry state of the ground in former years had rendered unfit for the plough, show signs of being confined to one single season, while climatic conditions are apparently reverting to the dry state which has so much interfered in the past with the progress of agricultural industry in New South Wales. The experience gained by farmers shows the necessity of conserving, wherever possible, the water which rain-clouds supply in so irregular a fashion.

Season of 1888-9.

The influence of the rainfall, however, can hardly be shown by means of figures. There are too many considerations affecting the value of rain to admit of this being done. The period of the year at which rain falls, the quantity falling at any one time, and evaporation, are elements of as much importance as the total

Influence of rainfall.

rainfall. The following statement shows the state of wheat cultivation since the year 1862:—

Area under Wheat—Yield per Acre.

Year ended 31 March.	Area of crop.	Bushels.	Yield per acre.
	Acres.		Bushels.
1862	123,468	1,606,034	13·01
1863	108,136	1,054,954	9·75
1864	103,942	809,919	7·79
1865	104,568	1,246,458	11·92
1866	131,653	1,013,863	7·71
1867	175,033	2,226,027	12·72
1868	149,142	1,433,807	9·61
1869	164,206	1,787,085	10·88
1870	189,452	3,200,959	16·89
1871	147,997	999.595	6·75
1872	154,030	2,229,642	14·48
1873	177,551	2,898,463	16·32
1874	169,330	2,273,620	13·43
1875	166,911	2,148,394	12·87
1876	133,609	1,958,640	14·66
1877	145,608	2,391,979	16·43
1878	176,686	2,445,507	13·84
1879	233,252	3,439,326	14·74
1880	233,368	3,613,266	15·48
1881	253,137	3,717,355	14·69
1882	221,887	3,405,966	15·35
1883	247,361	4,042,395	16·34
1884	289,757	4,345,437	15·00
1885	275,245	4,271,394	15·52
1886	264,867	2,733,133	10·32
1887	337,730	5,868,844	17·37
1888	389,390	4,695,849	12·06
Average yield for twenty-seven years..... ...			13·18

Average yield for twenty-five years.

Dividing the quarter century ending with March, 1888, into quinquennial periods, the yearly averages were—

Quinquennial Period.	Average yield per acre.
1864–1868	10·13 bushels.
1869–1873	13·34 ,,
1874–1878	14·17 ,,
1879–1883	15 32 ,,
1884–1888	14·07 ,,

The increased yield of the latter period is partly due to improved farming; but, at the same time, it must not be lost sight of that the occurence of rust, smut, and other forms of disease in wheat has been less frequent and less general of recent years. Grouped according to the proportion of land under wheat during 1886 and 1887 to the total area, the districts stand as follows:—

Various districts compared.

Proportion of Land under Wheat in chief Districts compared with total Area.

District.	Proportion of land under wheat to whole area of district.	
	1886. Acres.	1887. Acres.
Young	1 in 45	1 in 38
Gundagai	50	42
Orange, Molong, and Carcoar	55	60
Bathurst	57	57
Yass and Burrowa	143	136
Murray Valley	148	109
Tamworth	148	150
Mudgee	178	196
Goulburn	212	221
Murrumbidgee	411	184
Wellington and Bogan	520	592
Tumut	533	429
Monaro	574	428
Hunter Valley	593	599
New England	648	567
Glen Innes, Inverell, and Tenterfield	718	607
Forbes and Grenfell	873	804
Gunnedah	3,131	2,820

Area of wheat cultivation in districts.

The area of land under wheat in the remaining districts of the Colony is so small as not to be worth taking into consideration, and is therefore neglected in the ensuing comparisons. Owing to the alteration of the boundaries of the electoral districts in 1881, comparison by electorates is not possible beyond that year. Taking, therefore, the seven years which have since elapsed, the total area under wheat in each district was—

Area under Wheat, in Acres.

Districts.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.	1886-7.	1887-8.
Goulburn	8,636	9,598	9,452	9,289	5,661	7,787	9,126
Yass	10,808	12,552	15,732	14,824	12,701	16,824	17,596
Wellington and the Bogan	8,321	10,463	12,722	12,700	11,153	20,170	17,722
Monaro	9,832	10,253	10,917	10,922	7,072	9,892	13,466
Murray Valley	38,928	38,705	45,493	45,792	50,097	54,240	74,080
Orange	37,429	45,045	52,294	47,890	45,564	59,721	55,033
Gundagai	9,150	12,004	15,390	15,412	18,438	20,108	24,253
Forbes	5,215	5,858	9,285	8,156	7,775	11,558	12,545
Murrumbidgee	5,638	4,357	13,143	11,799	19,793	26,204	46,309
Tamworth	10,600	11,750	14,275	12,644	12,838	16,543	16,179
New England	6,294	7,687	7,836	7,486	6,201	7,047	8,186
Namoi and Gwydir Valleys	3,180	3,226	3,436	3,617	4,114	5,485	5,989
North Coast	471	547	531	503	270	218	288
Glen Innes	7,428	8,771	8,321	9,465	8,241	8,789	10,401
Young	13,316	16,750	21,964	18,978	21,582	28,609	34,119
Hunter River Valley	9,012	8,058	8,288	7,750	6,490	8,326	8,235
Bathurst	23,834	25,573	21,456	20,269	12,858	18,817	18,889
Mudgee	8,283	9,851	12,163	11,586	10,125	12,749	11,511
Tumut	2,660	3,283	3,698	2,926	2,185	2,739	3,405
South Coast	383	359	364	261	141	138	152
Hawkesbury and Nepean Valleys	2,338	2,444	2,763	2,797	1,333	1,597	1,351
Western Districts	115	214	230	159	220	166	551

Agriculture gaining ground

The foregoing figures are instructive, as they throw considerable light upon the history of wheat cultivation and agricultural settlement in New South Wales. Although the interval under examination is a short one, extending over a period of seven years only, great changes are shown to have taken place in parts of the country hitherto devoted mainly to pastoral occupation. It is also interesting to note that agriculture is gaining ground in those districts where the greater number of the huge freehold estates, accumulated by pastoralists under the auction sales and improvement clauses of the Land Act of 1861, are situated. It is in the valleys of the Murray, the Murrumbidgee, and the Lachlan that the struggle between squatter and selector has been fiercest, and where the most remarkable increase of agricultural settlement as regards wheat-growing and agriculture generally has been exhibited. The following statement, showing the total area of land under crop in the districts abutting on the three great rivers above-mentioned, in the years 1881 and 1887 respectively, will serve to illustrate this point :—

Districts.	Total Area under Cultivation.	
	In 1881.	In 1887.
	Acres.	Acres.
The Murray	55,763	93,961
The Murrumbidgee	13,045	59,096
Forbes	12,429	18,223
Gundagai	13,295	28,269
Yass	16,194	24,200
Young	21,132	42,224
Total	131,858	265,973

Murrumbidgee district.

By far the greater proportional increase is exhibited in the case of the Murrumbidgee electoral district, where the total area under cultivation has increased four and a half times in seven years; whilst on an average, the figures for the other districts show an increase of about 100 per cent.

As regards the cultivation of wheat for grain only, it will be seen that in most of the above-mentioned districts it has taken the larger share of the total increased area placed under cultivation during this short period of seven years. In the Murrumbidgee the area under this crop has increased to nearly nine times what it was in 1881; in that of Young it has grown from 13,316 acres to 34,119 acres; in that of Gundagai, from 9,150 acres to 24,253 acres; and in the Murray River Valley, from 38,928 acres to 74,080 acres; whilst in the other districts it has increased in proportion to that of the general cultivation. Reverting to the examination of the whole of the principal wheat-growing districts of New South Wales, the average yield per acre for the period of seven years under notice will be seen below.

Average yield per acre.

Average yield of districts compared.

Wheat.—Average Yield per Acre, in Bushels.

Districts.	1881-2.	1882-3.	1883-4.	1884-5.	1885-6.	1886-7.	1887-8.	Average.
Goulburn	15·6	17·3	13·3	17·1	9·5	18·9	10·7	14·6
Yass	15·2	17·5	14·2	17·0	11·1	17·7	11·5	14·9
Wellington and the Bogan	13·5	16·2	14·1	17·2	6·4	16·2	12·9	13·8
Monaro	16·4	16·6	14·9	16·6	11·4	17·0	15·9	15·6
Murray Valley	10·8	12·3	13·6	9·6	12·1	14·4	10·2	11·9
Orange	17·3	17·9	16·7	15·7	9·9	18·3	11·8	15·4
Gundagai	18·2	18·2	15·8	18·4	11·4	20·2	12·6	16·4
Forbes	16·5	11·3	15·1	13·4	7·9	20·5	11·3	13·7
Murrumbidgee	14·1	14·5	14·4	14·4	8·0	19·9	11·1	13·8
Tamworth	17·3	16·6	16·0	16·3	10·1	14·7	15·1	15·2
New England	19·2	21·1	19·3	20·1	15·4	17·1	16·7	18·4
Namoi and Gwydir Valleys	18·4	22·7	15·7	15·9	8·7	13·9	13·3	15·5
North Coast	16·3	21·0	22·2	18·2	16·6	13·9	21·3	18·5
Glen Innes	19·5	20·8	19·6	20·5	19·2	13·8	17·8	18·7
Young	17·1	16·7	13·4	17·5	9·9	19·2	11·0	14·9
Hunter River Valley	14·8	8·0	15·4	15·6	8·4	16·8	12·9	13·1
Bathurst	14·5	15·3	11·9	14·8	8·2	16·4	12·2	13·3
Mudgee	14·2	21·9	14·1	18·1	6·3	19·0	12·9	15·2
Tumut	20·5	20·5	19·0	23·6	14·2	20·0	14·3	18·8
South Coast	20·7	20·5	22·6	23·0	17·1	14·6	17·4	19·4
Hawkesbury and Nepean Valleys	13·6	13·3	13·9	13·2	12·8	16·3	12·0	13·6
Western District	10·6	7·4	10·8	9·4	5·5	12·6	9·0	9·3
Average for whole Colony	15·3	16·3	14·9	15·5	10·4	17·3	12·1	15·2

Average yield of districts compared.

Leaving aside the North and South Coast districts, where the area under wheat is too small to afford a valuable test as to their wheat-growing capabilities, it will be seen that Tumut, Glen Innes, and New England have given the largest, as well as the most consistent yield during the whole period. This is what might have been anticipated. The situation of these districts on the high plateau of the main range dividing the coastal region of the Colony from the Great Western Plains, places them under conditions as to soil, climate, and rainfall similar to those which obtain in the richest wheat-growing countries of Europe and America.

Gundagai, Monaro, Gunnedah, Orange, Mudgee, and Young follow next, in the order named, as regards yield per acre, which in each case may be considered fairly good. Yass, Goulburn, and Tamworth also yield a fair average crop. The scale sensibly decreases in the other districts of the Colony, which, with the exception of Bathurst and the Hunter Valley, are situated on the confines of the lower slope of the main range, and the great plains of the interior.

Decrease in yield as descent is made to plains.

It may be stated as a general law that those districts situated on the higher table-lands of the main Dividing Range are the best adapted to the cultivation of wheat, and that the average yield decreases in an almost constant ratio as a descent is made towards the plains, where the average falls as low as in similar formations in South Australia and Victoria. Bathurst is the only exception to this general rule, but as it is in that district that the greater quantity of wheat is grown, as compared with the total area, the reason of its small average annual yield must be sought apart from the circumstances of its geographical situation. It may be that the constant succession of crops has injured the productiveness of the soil, and brought about a decreased yield in the district where cultivation has been most continuous. It will be observed that the yield for the season 1885–6 was less per acre than that of any other year since 1871. The reason of such falling off cannot be readily discovered from the records of rainfall, but that season was the close of a series during which the rainfall was restricted, and its failure may be due, to some extent, to the deficiency of the rain in previous years.

Copiousness of last crop.

The season 1886–7, on the other hand, exhibited throughout most of the districts a considerable improvement, both in acreage under wheat, and the average yield per acre. Two causes have combined to make the production of that season larger than the average of previous years—the bad prospects of stock and station produce during the winter of 1886, in some districts adapted to the growth of grain; and the occurrence of seasonable rains in most parts of the Colony. Owing to the former cause, much additional land was placed under crop in certain districts hitherto devoted to grazing, as the prospects of farming seemed brighter than those of stock raising, and through the latter cause the average sensibly increased. The increase in the area under wheat was kept up during the last season, 1887–8, the total area under wheat being considerably greater than in 1886–7; but the yield was below the average of the period under review.

Rainfall in wheat centres.

The average rainfall on some of the most important wheat-growing centres during the year 1887, was—

District.	Rainfall in 1887.	District.	Rainfall in 1887.
Goulburn	25·8 inches.	Tamworth	25·6 inches.
Yass	26·6 ,,	New England	29·8 ,,
Wellington	19·0 ,,	Bathurst	23·6 ,,
Monaro	22·7 ,,	Mudgee...............	24·6 ,,
Murray	21·7 ,,	Glen Innes	26·5 ,,
Orange and Carcoar	19·0 ,,	Young	26·6 ,,
Gundagai	21·0 ,,	Hunter Valley......	19·0 ,,
Forbes	15·5 ,,	Tumut	28·5 ,,
Murrumbidgee......	15·4 ,,		

Average yield of New South Wales compared with other colonies.

If the average production of wheat per acre in New South Wales be compared with that of the other colonies of the Australasian group, it will be found that this Colony occupies a very satisfactory place. Its average is greater than that of any other portion of continental Australia, although somewhat less than the Tasmanian yield, and considerably below that of New Zealand. The following table shows the average produce of each Australasian Colony since 1873.

	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	Mean.
New South Wales	13·43	12·87	14·66	16·43	13·84	14·74	15·48	14·69	15·35	16·35	15·00	15·52	10·45	17·37	12·06	14·55
Victoria	13·58	14·57	15·49	13·15	12·41	8·76	13·29	9·95	9·40	9·06	14·10	9·52	8·99	11·49	10·81	11·64
South Australia	7·87	11·75	11·95	5·40	7·76	7·15	9·78	9·96	4·57	4·21	7·94	7·53	7·53	7·58	9·75	8·04
Queensland	..	..	..	..	10·63	13·56	8·11	20·40	8·41	13·89	4·34	16·17	5·11	8·12	22·10	11·44
Western Australia	13·44	12·00	11·00	12·00	11·00	9·97	14·94	14·94	7·00	11·00	13·00	13·00	11·50	12·25	9·80	11·79
Tasmania	16·17	18·51	16·38	19·30	18·12	16·10	23·22	14·99	18·88	20·27	17·74	19·30	17·32	17·91	16·67	18·06
New Zealand	25·61	28·15	31·54	28·63	26·30	22·94	28·16	25·07	22·69	26·28	26·02	25·43	24·40	24·89	26·37	26·16

Comparison with other countries.

Compared with the majority of European countries, the yield of wheat must appear inconsiderable, both in regard to the total quantity obtained, and the produce per acre. The return from some of the chief wheat-growing countries is given below.

Produce of Wheat per acre in Wheat-growing Countries of Europe and America.

Wheat-growing Countries.	Average produce of wheat per acre.
	Bushels.
Denmark	31·1
United Kingdom	26·9
Norway	25·1
Belgium	22·8
Holland	21·5
Manitoba	20·3
Germany	18·8
France	16·9
Austria	16·4
British Columbia	15·0
Ontario	14·1
Hungary	13·6
Italy	12·1
United States	11·7
Quebec, Nova Scotia, and New Brunswick	9·9
Russia in Europe	4.6
New South Wales (since 1873)	14·6

CONSUMPTION AND PRODUCTION OF BREADSTUFFS.

Production of wheat not equal to demand.

The production of wheat still remains considerably below the consumption of the Colony. The accompanying table has been prepared with a view to illustrate the state of the Colony in this respect, and shows the total consumption of wheat, the home production, and the net deficiency for twenty-five years.

Consumption and Production of Wheat in New South Wales.

Year.	Total consumption.	Available home production.	Net Deficiency.	Consumption of wheat per head.	Home produce per head.	Deficiency.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1862	2,326,648	1,451,749	874,899	6·5	4·0	2·5
1863	1,875,188	919,783	955,405	5·0	2·4	2·6
1864	2,601,886	678,992	1,922,894	6·7	1·7	5·0
1865	2,530,160	1,115,741	1,414,419	6·3	2·8	3·5
1866	2,780,756	849,297	1,931,459	6·6	2·0	4·6
1867	3,172,134	2,007,236	1,164,898	7·2	4·6	2·6
1868	2,482,547	1,247,380	1,235,167	5·4	2·7	2·7
1869	2,940,010	1,681,828	1,258,182	6·2	3·5	2·7
1870	4,229,681	2,964,144	1,265,537	8·6	6·0	2·6
1871	2,522,056	814,624	1,707,432	4·9	1·6	3·3
1872	3,236,524	2,037,105	1,199,419	6·1	3·8	2·3
1873	4,061,054	2,676,525	1,384,529	7·4	4·9	2·5
1874	3,429,879	2,061,598	1,368,281	6·0	3·6	2·4
1875	3,831,220	1,939,756	1,891,464	6.5	3·3	3·2
1876	3,684,332	1,791,629	1,892,703	6·0	2·9	3·1
1877	3,699,965	2,209,969	1,489,996	5·8	3·5	2·3
1878	4,370,538	2,224,650	2,145,888	6·6	3·3	3·3
1879	4,795,087	3,147,761	1,647,326	6·9	4·5	2·4
1880	5,226,001	3,321,556	1,904,445	7·1	4·5	2·6
1881	4,277,670	3,400,934	876,736	5·6	4·4	1·2
1882	5,382,152	3,136,461	2,245,691	6·7	3·9	2·8
1883	5,138,164	3,733,171	1,404,993	6·1	4·4	1·7
1884	5,827,360	3,983,246	1,844,114	6·6	4·5	2·1
1885	6,639,149	3,927,273	2,711,876	7·1	4·2	2·9
1886	6,077,440	2,402,057	3,675,383	6·2	2·9	3·3
1887	7,929,642	5,446,682	2,482,960	7·7	5·7	2·0

Consumption in different years compared.

A false idea would probably be formed if the result of any one year were separately compared with that of any other, as it frequently happens that the transactions of one year affect the trade of the following year to a very large extent. To cover irregularities of export and import, and in order to facilitate comparison, the period has been divided into series of five years. The relative state of production and consumption will be found below, the basis of comparison adopted being that of population.

Consumption and Production of Breadstuffs.

Period.	Average yearly consumption per head.	Average yearly home produce per head.	Deficiency yearly per head.
	Bushels.	Bushels.	Bushels.
1862–66	6·2	2·5	3·7
1867–71	6·4	3·6	2·8
1872–76	6·4	3·7	2·7
1877–81	6·4	4·0	2·4
1882–86	6·5	4·0	2·5
1887	7·7	5·7	2·0
Average	6·44	3·64	2·80

Average yearly production.

It will be seen that during the first period, the average yearly production was considerably less than half the consumption, the deficiency being about 60 per cent. At the close of the series the home production had largely increased, so that the deficiency was scarcely more than 38 per cent. during the last quinquennium. There has been all through the period a tendency towards closing the gap between the demand and the supply, and the results of the harvest of 1887–8 exhibited a still further advance in this direction. For the season named, the yield has been equal to 5·65 bushels per head, which, at the average rate of consumption calculated for the last quarter century, would leave a deficiency of three-quarters of a bushel per head of population. But although the yield of that season was so copious, the available quantity of wheat was not so large as anticipated, as in a number of districts a considerable proportion of the crop was spoilt, owing to the heavy rains which fell during the reaping season. This seems to indicate, nevertheless, that the time is not far distant when the Colony, in the matter of breadstuffs, will be independent of outside contributions.

Average consumption.

The average consumption of wheat in New South Wales amounts, as above stated, to 6·45 bushels per head; a rate which is higher than that of any country whose records have been available for reference; the excess over that of the United Kingdom being 3·75 bushels per head. The consumption includes what is used for all purposes except seed, a fact which must be borne in mind, as the quantity used for the manufacture of biscuits and other articles, as well as for other than food purposes, is not inconsiderable.

Importation of breadstuffs.

The relative proportions of flour and wheat imported have changed very considerably during the twenty-five years above alluded to, as will be seen hereunder.

Average yearly Import of Flour and Wheat.

Period.	Flour in equivalent of wheat.	Wheat.
	Bushels.	Bushels.
1862-66	1,066,892	801,765
1867-71	905,540	750,705
1872-76	1,012,110	838,388
1877-81	1,529,140	545,914
1882-86	2,484,645	613,180
1887	3,401,050	278,105

Decline in quantity of wheat imported.

These figures read by themselves seem to disclose an unsatisfactory condition of things in connection with the manufacture of flour in the Colony. In the first five years the import of flour amounted to 57 per cent. of the whole of the breadstuffs imported, while, in the last period, it had risen to 80 per cent., seemingly indicating a considerable deficiency in mill power in the Colony. But this is only a partial view of the case. A comparison between the importation of flour and the total home consumption gives an entirely different result, as will be seen from the next table. The figures in each case are the yearly averages for the different periods.

Comparison between amount of Flour Imported and Made in the Colony.

Period.	Total consumption of flour in equivalent of wheat. — Yearly average.	Flour imported for home consumption in equivalent of wheat. — Yearly average.	Flour manufactured in the Colony in equivalent of wheat. — Yearly average.	Percentage of flour manufactured in the Colony to whole consumption. — Yearly average.
	Bushels.	Bushels.	Bushels.	
1862–66	2,422,927	644,206	1,788,722	73·5
1867–71	3,069,285	610,429	2,458,856	80·1
1872–76	3,648,602	804,692	2,846,910	77·9
1877–81	4,473,852	1,170,719	3,303,133	73·8
1882–86	5,812,836	1,835,218	3,977,618	68·5
1887	7,929,642	2,340,775	5,588,867	70·5

Mill-power up to consumption.

It will be seen from this table that the mill-power of the Colony, or rather the manufacture of flour, has fairly kept pace with the increase in consumption, while the actual quantity of flour manufactured yearly has increased from an average of 1,788,722 bushels to 5,588,867 bushels.

The change in the character of the imports noted above, that is, the substitution of flour for grain, is attributable to a change in the markets whence the supply is drawn, Victoria having to a large extent superseded South Australia. The prominence of Victoria as an exporter of breadstuffs to this Colony dates from 1878, and the excess of flour over wheat so exported is very pronounced. South Australia, whence the chief supply of this Colony was formerly drawn, and from which large quantities are still obtained, has, since the competition of Victoria became formidable to her, greatly diminished the proportion of wheat to flour, until, of late years, the quantity of South Australian wheat sent to this Colony has become comparatively insignificant.

Export of breadstuffs.

The export of breadstuffs from New South Wales represents for the most part a re-export of foreign produce, Queensland being the chief buyer. In the year 1881, the export, which had previously been small, suddenly increased threefold. And though showing a decline during the succeeding years, it still retains respectable proportions, the average during the last five years being over 24 per cent. of the total quantity imported.

Wheat grown for hay.

Wheat is also grown in considerable quantities for hay and dry fodder for cattle, and the area under cultivation is steadily increasing, although the produce is still short of the requirements of the country. The whole of the wheat grown for hay in the Colony is consumed locally. The following statement shows the extent of land under wheat for hay, with the yearly produce, during eleven years.

Area under Wheat for Hay, and Yield.

Year ended 31 March.	Acres.	Produce in tons.	Year ended 31 March.	Acres.	Produce in tons.
1877	17,115	21,297	1883	42,592	43,997
1878	29,640	29,137	1884	49,348	55,119
1879	22,888	31,320	1885	86,584	87,328
1880	25,281	32,943	1886	105,122	74,606
1881	41,137	44,037	1887	74,070	109,851
1882	39,428	42,378	1888	60,340	70,392

Cultivation of wheat for hay increasing.

From the foregoing figures it will be seen that the cultivation of wheat for hay is increasing at a much greater ratio than that for grain, the area so cultivated having reached in 1887–88, nearly four times that cultivated for the same purpose in 1877, whilst the production was over three times as great. Long series of dry years may in some measure account for the increased area devoted to hay, but the steady demand for hay and chaff, wheaten as well as oaten, and the large import of this produce, fully justify an extension of its cultivation. The decrease observable since 1886, when an area of 105,122 acres under wheat was cut down for hay, is entirely due to climatic conditions during that and the following seasons. In 1885, when the drought was very severely felt, a large area of wheat originally grown for grain had to be cut down for hay, and the average crop was a very small one. In the following year both the grain and hay crops were exceptionally good, and during the last two seasons wheat came to maturity without suffering from excessive temperature or other injurious conditions which might have necessitated the sacrifice of a more or less considerable percentage of the grain crop. The abundance of natural herbage, moreover, was such that there was no considerable demand for green fodder in the semi-agricultural and semi-pastoral districts, where wheaten hay finds at other times a ready and often very remunerative market. There still exists a considerable difference between the demand for hay and the supply from within the Colony, as there were 21,952 tons of hay and chaff imported in 1887, principally for consumption in the Metropolitan district; but this difference is decreasing every year, and the time is not far distant when New South Wales will become independent of Victoria for the supply of this commodity. South Australia will probably continue, however, to supply for some years to come the growing wants of the Barrier, Broken Hill, and Silverton districts.

Causes affecting hay crop.

The total area under wheat in 1887, both for grain and for hay, was 449,730 acres, producing 4,695,849 bushels of grain and 70,392 tons of hay, the value of both kinds of produce being £1,077,871.

MAIZE.

Principal centre of cultivation.

The cultivation of maize in this Colony is almost as important as that of wheat, and forms the staple industry in the valleys of coastal rivers, which are peculiarly adapted, both by soil and the climate, for the growth of this cereal. On the table-land also its cultivation is attended with fair results, but as the land rises in elevation so does the average produce per acre proportionately decrease. Attempts have been made to grow maize in the western division of the Colony, but success has only been met with under special conditions of natural or artificial irrigation, for the plant demands a considerable amount of moisture, and thrives better in the moist climates of the coast than anywhere else in the country. Although the area under maize is less than half of that under wheat cultivation, the gross yield obtained is frequently as large, and in some seasons greatly exceeds that of wheat.

Distribution of production.

The following statement shows the distribution of the production of maize in the Colony during the seven years which ended with March, 1888, as well as the average yield obtained in each district.

Maize.—Average Yield per Acre in Principal Districts.

District.	1881-2	1882-3	1883-4	1884-5	1885-6	1886-7	1887-8	Average
	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels
Tamworth and New England	18·5	21·8	18·9	18·3	19·0	18·0	23·0	19·7
The Macleay	53·0	49·9	51·9	43·1	43·2	34·6	24·7	42·9
The Hastings and Manning	36·5	35·9	40·6	27·5	33·9	31·6	22·0	32·6
The Clarence	47·8	49·9	36·2	38·4	33·6	20·9	45·0	32·8
The Richmond	42·2	36·5	38·4	27·2	30·0	25·8	23·8	31·9
Grafton	44·6	32·0	42·2	28·6	31·3	18·1	45·0	34·5
Gloucester	29·3	29·1	33·0	19·1	29·7	30·6	21·0	27·4
Glen Innes	21·0	24·9	22·8	19·0	23·8	19·3	23·0	22·0
Hunter River Valley	33·4	28·0	33·0	21·7	29·8	27·4	24·1	28·2
Mudgee	17·3	17·7	19·7	17·6	22·8	20·6	25·9	20·1
Tumut	32·1	33·5	31·9	31·1	44·5	35·6	40·9	35·6
Hawkesbury and Nepean River Valley.	33·9	22·9	34·7	21·7	33·1	29·6	28·5	29·2
The South Coast	36·7	34·8	34·0	31·2	33·5	22·6	36·9	32·8
Other districts of the Colony	18·7	20·7	15·7	12·1	15·1	17·9	21·8	17·4

Coast production largest.

It will be seen that the average production is greatest in the north and south coast districts. In the Hawkesbury and Nepean and the Hunter River valleys, where cultivation extends to a greater distance from the coast, and is under altered circumstances as to rainfall, the yield is somewhat less; while in the higher part of the country the decline is very appreciable, for in the districts of Tamworth, New England, and Mudgee, the average yield is only from 53 to 61 per cent. of that of the north coast.

Favourable condition of the district of Tumut.

The district of Tumut appears, however, to be an exception to the general rule, as the yield is almost as large and even more regular than in the coast district. But the area under maize cultivation at Tumut is hardly large enough to justify any deduction being drawn from its exceptional yield. It may be, however, noted that Tumut stands at the head of the other agricultural districts of the Colony as regards its high and well sustained average yield of wheat and other grain crops; a circumstance attributable to the general excellence of the soil, and the fairly abundant and regular supply of rain with which the district is favoured. The relative position of the districts of the Colony where maize is principally grown is as follows:—

Districts.	Average per acre for the period 1881-1887.	Maximum average per acre for any one year.	Minimum average per acre for any one year.
	Bushels.	Bushels.	Bushels.
North Coast	34·7	42·2	26·9
Tumut	35·6	44·5	31·1
South Coast	32·8	36·9	22·6
Hawkesbury and Nepean	29·2	34·7	21·7
Hunter River	28·2	33·4	21·7
Glen Innes	22·0	24·9	19·0
Mudgee	20·1	25·9	17·3
Tamworth and New England	19·7	23·0	18·0
Other districts, where maize is not grown in large quantities	17·4	21·8	12.1

Increase in Area devoted to maize.

The area under maize cultivation was increased from 57,959 acres in the year 1862 to 171,662 in 1888, and was therefore trebled in twenty-seven years. Considered in the light of the general advance of settlement, particularly in those districts where this cereal may be successfully cultivated, there is nothing remarkable in the progress thus exhibited, especially as there is no lack of land in New South Wales fit for maize cultivation. The fact is, nevertheless, worthy of notice, that in the year 1888 an area of 24,705 acres was added to the total acreage under maize for grain in 1887, a much greater increase from one year to another than ever took place during the past twenty-seven years, with the exception of the year 1879, when 25,072 acres were added to the area under maize in 1878.

State of maize cultivation 1862-88.

The following table shows the state of maize cultivation in the Colony during the period referred to—1862 to 1888 inclusive:—

Maize—Area under Crop, and Yield.

Year ended 31 March.	Area under crop.	Yield.	Average per acre	Year ended 31 March.	Area under crop.	Yield.	Average per acre.
Acres.	Acres.	Bushels.	Bushels		Acres.	Bushels.	Bushels
1862	57,959	1,727,434	29·8	1876	117,582	3,410,517	29·0
1863	75,991	2,559,258	33·6	1877	116,364	3,879,537	33·3
1864	95,689	2,925,950	30·5	1878	105,510	3,551,806	33·6
1865	101,584	3,114,212	30·6	1879	130,582	4,420,580	33·8
1866	113,443	2,759,904	24·3	1880	135,034	4,761,856	35·2
1867	119,519	3,878,064	32·4	1881	127,196	4,518,897	35·5
1868	115,522	3,132,505	27·1	1882	117,478	4,330,956	36·9
1869	120,807	3,777,405	31·2	1883	118,180	4,057,635	34·3
1870	128,041	4,880,805	38·1	1884	123,634	4,538,604	36·7
1871	107,178	2,340,654	21·8	1885	115,600	3,389,505	29·3
1872	119,956	4,015,973	33·4	1886	132,709	4,336,163	32·6
1873	116,745	3,984,958	34·1	1887	146,957	3,825,146	26·0
1874	116,648	4,128,865	35·3	1888	171,662	4,953,125	28·8
1875	118,436	3,618,436	30·5	Average for 27 years			31·8

Average produce per acre.

The average production per acre, as may be gathered from the foregoing figures, is a very variable item, averaging, for the whole of the Colony from 21·8 bushels, the minimum, which was obtained in the year 1871, to 38·1, the maximum, which was attained in 1870. The yield of the last season although below the average per acre is, nevertheless, owing to the considerable increase in the area under this grain crop, the largest yet produced in New South Wales, and there will be handled during the present year 1,127,979 bushels more than in 1887, a quantity nearly 30 per cent. over the production of that season. These figures measure the losses caused by the disastrous floods which occurred in the northern part of New South Wales in the early months of 1887. The prospects of the coming season are, so far, very satisfactory, and if, after the long period of dry weather from which the coastal region is at present suffering, the spring rains are not too copious, satisfactory returns may be confidently looked for The large quantity of maize daily arriving in the market has caused a great fall in the quotations for this cereal, which are now lower than they have been for some years. Maize is not only cultivated as a grain crop, but a small area is sown for green food for cattle, chiefly on dairy farms. In 1887, the area thus cultivated was 2,724 acres, the greater part in the Camden and south coast districts.

OATS.

Principal centre of oat cultivation.

This cereal is cultivated as a grain crop, principally in the wheat-growing districts of the Colony; and as it is essentially a produce of cold climates, it thrives best in those parts of the country with a winter of some severity. Bathurst, Carcoar, Orange, Monaro, and New England, are the principal centres of oat cultivation in New South Wales, but the latter district yields the best crops. The average of the Colony for 1887–8 is only 20·3, but that obtained in the three electorates of New England, Tenterfield, and Glen Innes reached 26·5, 29·8, and 30·1 bushels per acre respectively.

In the district of Tumut little attention has been hitherto paid to the crop, although the average yield over the small area cultivated reached 23·4 bushels per acre, or 3·1 bushels above the average yield for the whole Colony during the season 1887–8. No oats are grown in the northern portion of the coastal districts for the purpose of a grain crop. In the southern coast districts the area under oats for grain is very limited, but that under oats for hay or green food is not inconsiderable. The following table illustrates the state of the cultivation of this crop since 1862.

Area in cultivation.

Oats.—Area under Crop, and Yield.

Year ended 31 March.	Area.	Production.	Average per acre.
	Acres.	Bushels.	Bushels.
1862	7,224	152,426	21·1
1863	9,988	201,415	20·2
1864	13,022	213,924	16·4
1865	14,098	189,524	13·4
1866	10,939	116,005	10·6
1867	14,914	304,028	20·4
1868	13,142	156,965	11·9
1869	12,129	164,687	13·6
1870	17,301	400,766	23·2
1871	10,683	119,365	11·2
1872	13,795	280,887	20·3
1873	13,586	270,967	19·9
1874	16,172	302,600	18·7
1875	17,973	293,135	16·3
1876	18,855	352,966	18·7
1877	21,828	461,916	21·2
1878	18,580	358,853	19·3
1879	22,129	447,912	20·2
1880	23,883	516,937	21·6
1881	17,922	356,121	19·9
1882	16,347	356,566	21·8
1883	24,817	617,465	24·9
1884	17,810	376,635	21·1
1885	19,472	425,920	21·9
1886	14,117	279,107	19·8
1887	23,947	600,892	25·1
1888	19,393	394,762	20·3

Cultivation of oats for grain.

It will be seen that the cultivation of oats for grain has nearly trebled during the period embraced by this table, but it will also be noticed that the area now under cultivation barely exceeds that of the year 1876, the increase during a period of twelve years being only 538 acres. The area cultivated during several years since 1876 has fallen greatly below that of the year named, and the cultivation of this cereal appears to have been subject to great fluctuations, the area which in 1883 attained 24,818 acres, and 23,947 in 1887, falling as low as 14,117 acres in 1886, whilst this season there is a decrease of 4,554 acres in the area under oats as compared with the previous one. The quantity of grain produced necessarily shows the same irregularity, and exhibits a decrease of 34·30 per cent. as compared with the production of 1887, during which year the yield obtained was 600,892 bushels, an amount which has only once been exceeded during the last quarter century, viz., in 1882–3, when 617,468 bushels of oats were harvested. The best average yields per acre were obtained during the seasons of 1883 and 1887, 24·9 bushels having been harvested per acre in the former year, and 25 1 bushels in the latter.

Area under oats.

Average yield per acre.

The mean average production of oats for grain for the period 1861–6 was 19·0 bushels per acre, the minimum obtained in any year being 10·6 bushels in the season 1865-66, and the maximum 25·1 bushels in that of 1886–87. Compared with the other Continental Colonies, New South Wales holds, in regard to average yield, the second rank, Victoria coming first, but both these colonies are surpassed by Tasmania and New Zealand. The climate of the latter colonies is much more adapted for the successful cultivation of this grain, the average produce of New Zealand in particular being very nearly equal per acre to that of the United Kingdom, and on a par with the best oat-producing countries of the Old World.

Average yield of oats per acre in N.S. Wales and other colonies.

In the following table figures will be found giving the average produce per acre in each of the Australasian Colonies during the last fifteen years, the records for Queensland alone being incomplete.

Average Production of Oats per Acre in the Australasian Colonies.

Colonies.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	Average.
New South Wales	18·71	16·31	18·72	21·16	19·31	20·24	21·64	19·87	21·81	24·88	21·15	21·87	19·77	25·08	20·35	20·72
Victoria	15·69	18·46	21·92	19·91	19·39	17·60	24·00	17·62	24·57	26·17	25·07	23·40	21·72	22·91	22·92	21·42
*South Australia	10·61	14·61	16·69	10·65	11·96	12·01	15·02	11·50	10·66	11·13	14·65	12·20	12·20	12·20	12·20	12·55
Queensland	..	..	..	..	10·11	9·65	24·74	17·94	12·74	16·58	8·90	15·17	4·84	10·41	24·26	14·12
Western Australia	19·22	16·00	15·00	15·00	14·00	18·02	19·00	19·00	10·00	15·03	17·00	18·00	14·50	16·00	15·13	16·06
Tasmania	20·98	26·82	25·40	24·21	22·32	24·82	28·61	22·13	28·44	27·34	27·39	28·65	26·82	25·95	18·20	25·20
New Zealand	29·81	35·22	37·79	31·24	31·68	30·11	36·53	32·05	28·45	32·89	35·11	34·84	26·11	30·92	31·24	32·26

* No returns have been collected since 1885.

Average yield in principal countries.

The average yield in the principal countries of the world where oats are extensively grown is as follows:—

Principal oat-growing countries.	Average produce of oats per acre.
	Bushels.
Holland	42·1
Belgium	41·8
Norway	39·7
United Kingdom	37·7
Denmark	32·3
France	26·0
United States of America	26·0
Germany	21·9
Austria	20·9
New South Wales	20·7
Hungary	20·2
Italy	19·3
Russia	12·3
Cape of Good Hope	8·1

Cultivation of oats neglected.

Thus New South Wales, though not among the rich oat-growing countries of the world, still holds an intermediate rank, and is almost on a par with Germany and Austria, and above Hungary, Italy, Russia, and the Cape. The cultivation of oats as a staple agricultural crop has been much neglected in the Colony, though the return has not been unsatisfactory. It is possible that in the near future the growth of this grain will receive greater attention, especially as the deficiency between the production and the consumption is very considerable. The elevated districts of Monaro, Argyle, Bathurst, and New England, in preference to other parts of the Colony, contain vast areas of land where the cultivation of this grain can be carried on with remunerative results.

Oats as a fattening food.

In connection with this subject it may not be generally known that the relative nourishment of oats exceeds that of either maize or wheat, weight for weight. If 100 be taken as the value of oats for fattening purposes, the respective values of equal weights of the other cereals are:—

Oats	100
Wheat	70
Maize	62

And for equal measures:—

Oats	100
Wheat	131
Maize	107

Supply from New Zealand.

The production of this grain is far from satisfying the wants of the Colony, and the importation is, therefore, very large, 1,524,416 bushels having been imported from abroad in the year 1887. New Zealand is the principal source of supply, the quantity obtained from that colony in 1887 being 1,371,868 bushels. Much yet remains to be done before the Colony can be independent of outside assistance in regard to the supply of oats, as, for some years past the quantity produced was only 20 per cent. of the amount consumed, and there would thus be an ample market within New South Wales for the produce of 60,000 acres more than is usually reaped.

Oaten hay in demand.

In parts of the Colony where the climate is not suitable for maturing the grain, a large area is sown for hay and green food. The area under oats for these purposes has increased from 28,109 acres in 1861 to 128,962 acres in 1886, being over four and a half times as large in the latter as in the former year; but it fell to 86,451 acres in 1887. Oaten hay is much in demand, and sells readily at remunerative prices; and, as there is less expense and lighter labour attached to this form of cultivation, the system of growing oats for hay is consequently more in favour with the

Oats for hay and green food.

farmers of New South Wales than the cultivation of the grain. The area under the two crops stood to each other in the following relation in the year 1887 :—

Area under oats for grain	19,393 acres.
Area under oats for hay and green food.........	86,451 ,,
Total area under oats	105,844 acres.

The area harvested for grain being only 18·3 per cent. of the total area under oats.

BARLEY.

The cultivation of barley is very limited, the total area under crop for grain being only 4,402 acres in 1887–8, or 8,324 acres if the area laid down for hay and green food be included, whilst the acreage is no larger than twenty years ago. The following table illustrates the state of barley cultivation since the year 1862.

Cultivation of Barley for Grain.

Year ended 31 March.	Area under barley for grain.	Production.	Year ended 31 March.	Area under barley for grain.	Production.
	Acres.	Bushels.		Acres.	Bushels.
1862	3,924	41,054	1876	4,817	98,756
1863	2,538	30,636	1877	5,662	134,158
1864	4,093	67,009	1878	5,055	99,485
1865	4,724	60,355	1879	6,152	132,072
1866	5,844	58,370	1880	6,130	131,541
1867	6,211	91,741	1881	8,056	163,395
1868	5,140	62,392	1882	6,426	135,218
1869	6,397	94,715	1883	6,473	133,050
1870	9,152	148,617	1884	5,081	106,496
1871	4,650	47,701	1885	7,035	148,869
1872	3,462	55,284	1886	5,297	85,606
1873	3,727	70,708	1887	6,079	132,949
1874	3,559	66,225	1888	4,402	84,533
1875	3,984	69,053			

Barley grown in the Hunter Valley.

About one-fourth of the whole acreage under barley is to be found in the valley of the Hunter River, the remainder being distributed over a wide extent from the district of Mudgee, along the high table-land, to the southern limits of the Colony. Very little barley is cultivated in the northern part of New South Wales, although it might be grown successfully in the New England district. In the western division of the coastal region, the area under this crop is insignificant.

Average production.

The average production per acre during the season 1887–8 was 19·2 bushels, or a decrease of 1·5 bushels per acre below the average for previous years, which amounted to 20·69 bushels. The stationary condition of this industry is due to the small demand for the grain within the Colony.

Quantity of barley imported.

In 1887 the quantity of barley imported to make up the deficiency of home production amounted to 68,424 bushels, valued at £10,215, principally obtained from the United States, New Zealand, and Victoria. It would therefore require a very little effort on the part of the farmers to bring the production of this grain up to the level of the consumption.

Barley for green food for cattle.

An area very nearly equal to that cultivated for grain is also laid down for hay, and for the purpose of providing green fodder for cattle, the figures for the season 1887–8 being 4,402 acres of barley for grain; 3,922 acres of barley for hay and green food, the total area cultivated in 1887 being 8,324 acres, or 3,427 acres less than in 1886.

PRODUCTION AND CONSUMPTION OF GRAIN.

The total consumption of grain of all kinds in New South Wales amounts to 10·4 bushels per head of population, whilst the produce of the Colony is only 7·8 bushels or 75 per cent. of the total consumption. The deficiency in the production of wheat amounts to 33 per cent.; barley, 27 per cent., and oats, 83 per cent. There is, however, an excess in the production of maize over the local consumption which reduces the total average deficiency in the production of the principal grain crops to 25 per cent. There is no apparent reason why the local production of grain should not equal the local demand; on the contrary, the resources of the Colony are such that the supply of grain should largely exceed the requirements, and an increasing excess of production become yearly available for export, either as grain or as meat.

N.S.W. yield greater than other colonies.

The experience of past years distinctly shows that in the matter of soil, climate, and other natural conditions, New South Wales is, on the whole, better favoured, and consequently her average yield per acre of wheat, maize, and barley, is greater than that of any other continental Australian province, Victoria not excepted. Extending the field of comparison, the production of cereals is found to reach an average which places New South Wales on a level with countries usually considered as rich agricultural states. It is better than the average yield of the United States, of Italy, and Hungary; and, in some respects, almost on a level with that of Germany, Austria, and France. The area adapted for cereal growing is very considerable, and with a better knowledge of the capabilities of the various kinds of soils and well devised means of water storage, there should be practically no limit to the production of grain.

MINOR GRAIN CROPS.

The minor grain crops harvested are rye, millet, sorghum, and imphee. Little can be said on this subject except that, as in the case of other cereals, the suitability of the soil for their production is an established fact. There is, however, so little demand for these kinds of grain that their cultivation in New South Wales is very limited.

Rye.

The area under rye for grain in 1887 covered only 1,091 acres, whilst 426 acres were sown for green food. The average production of the grain crop was 17·6 bushels per acre.

Millet.

Millet was only cultivated over an area of 586 acres, 200 of which were harvested for grain, the remaining 386 acres being cut green for cattle. The greater part of the whole crop of millet was obtained in the Hunter River valley. The average production of the Colony amounted to 24·3 bushels per acre.

Sorghum and imphee.

The cultivation of sorghum and imphee for grain appears to have been abandoned, but the area sown in 1887 for green food for cattle amounted to 5,158 acres, chiefly within the dairy farming districts of Kiama, Illawarra, and Shoalhaven.

SOWN GRASSES, AS FOOD FOR CATTLE.

The area under these grasses is constantly increasing in the Colony, and in the course of the year 1887 there were under artificial grasses 212,721 acres, an increase of 141,205 acres over the area so cultivated ten years previously.

Lucerne.

Lucerne and other permanent grasses are laid down principally in the Hunter districts, and the south coast, 53,468 acres being so cultivated in the Shoalhaven district alone. The practice of sowing permanent grasses is also extending to the north coast districts, and in 1887 there were 21,984 acres under grass in the Richmond district. It is, however, in those portions of the Colony where dairy farming is principally carried on that the practice of laying down permanent grasses is most general.

POTATOES.

Area under potatoes.

The cultivation of the potato shows little improvement during the last twenty-five years, in regard to acreage under crop the area under this crop being very little in excess of that of the year 1880, whilst the yield of last season falls below that of the above-mentioned year. At present, the Colony has to make up by importation, from the other colonies, a considerable deficiency, amounting in 1887 to 54,140 tons, or nearly 50 per cent. of the total consumption for the year. The returns for 1887–8, however, exhibit an increase of 20·74 per cent. in the area under cultivation, Total production and yield per acre.

and of 34·18 per cent. in the total production, and the yield per acre is greater by 0·15 tons than the average of previous years. The total yield during the last season amounted to 61,455 tons. The following table illustrates the state of the cultivation of potatoes since 1862.

Area under Potatoes, and Yield.

Year ended 31 March.	Acres.	Tons.	Year ended 31 March.	Acres.	Tons.
1862	10,040	30,942	1876	13,805	41,203
1863	9,284	24,167	1877	14,171	42,939
1864	11,618	32,141	1878	13,862	34,957
1865	14,398	52,061	1879	16,724	53,590
1866	15,210	31,367	1880	19,271	62,228
1867	18,810	43,870	1881	19,095	52,112
1868	15,440	33,482	1882	15,943	44,323
1869	16,391	30,768	1883	14,462	43,461
1870	17,132	54,200	1884	14,953	36,977
1871	13,927	34,118	1885	12,417	31,335
1872	14,770	44,758	1886	15,166	38,695
1873	15,124	45,112	1887	17,322	45,803
1874	14,212	42,281	1888	20,915	61,455
1875	13,604	38,564			

Principal centres of cultivation.

The centres of potato-growing at present are Orange, Carcoar, Argyle, and New England. Its cultivation is, however, very widely distributed throughout the Colony, but in many places formerly well-known for its production, it has been largely displaced by maize and other cereals.

TOBACCO.

Soil and climate of New South Wales suited for tobacco.

Both the soil and climate of the Colony of New South Wales are well fitted for the growth of the tobacco plant. Tobacco, however, demands for its proper cultivation special knowledge on the part of the growers, and is not for this reason so largely cultivated as would otherwise be the case. In the year 1862, the first shown on the subsequent table, there were only 224 acres under cultivation, producing 2,467 cwt. of leaf tobacco. In the following years, however, the area had largely increased, chiefly in the agricultural districts of Argyle and the Hunter River valley. Since then, the growth of tobacco seems to have been almost entirely abandoned in the districts where it was first attempted, but it has spread to other parts of the Colony; the Murrumbidgee valley and Tumut being now the principal producers. More than a third of all the tobacco grown in the Colony is obtained in the latter district. The growth of tobacco is chiefly in the hands of Chinese, few European agriculturists being apparently possessed of sufficient skill in its cultivation and the preparation of the leaf.

Chinese principal cultivators.

During the last ten years, the area devoted to the cultivation of tobacco has increased tenfold, and it is a noteworthy fact that the quantity of colonial leaf used in the Colony now amounts to three-fourths of the total consumption. The present year has witnessed a remarkable increase in the acreage under tobacco, and consequently in the production of this plant, the area being 97·09 per cent. above that of 1887, and the results showing a yield in the weight of leaf produced 72 per cent. superior to that of the previous crop. The following table shows the progress of the industry during the last quarter century.

Area and production.

Cultivation of Tobacco.

Year ended 31 March.	Area.	Production.	Year ended 31 March.	Area.	Production.
	Acres.	Cwt.		Acres.	Cwt.
1862	224	2,467	1876	491	4,098
1863	896	15,315	1877	333	2,440
1864	534	4,851	1878	399	3,049
1865	807	4,036	1879	835	7,932
1866	1,499	7,469	1880	592	6,221
1867	1,326	2,478	1881	1,791	19,469
1868	627	6,035	1882	1,625	18,311
1869	875	7,925	1883	1,815	17,540
1870	366	3,192	1884	1,785	20,006
1871	225	700	1885	1,046	9,914
1872	567	4,475	1886	1,603	22,947
1873	440	2,751	1887	1,203	13,642
1874	199	1,261	1888	2,371	23,465
1875	539	6,069			

SUGAR-CANE.

Introduction of the sugar-cane in New South Wales.

The first agricultural returns in which mention is made of the cultivation of the sugar-cane and the production of sugar in New South Wales, only date from 1863. In that year 2 acres were returned as having produced 280 lb. of sugar, and it will appear strange that out of this quantity 220 lb. were stated to be the produce of one acre of cane, grown in the northern part of the county of Bathurst, while the remaining 60 lb. were produced on the banks of the Macleay River. The district last mentioned may be considered as the principal seat of this industry, during its earlier stages. Cane cultivation, however, soon extended to the northward, and in a very few years the richest portions of the lower valleys of the Clarence, Richmond, Tweed, and Brunswick, were occupied by settlers engaged in the planting and growing of cane, Mills were erected in the chief centres of cane cultivation, and cane-growing and sugar manufacturing are now the principal and best established industries of the north-eastern portions of the Colony.

Northern rivers suit sugar-cane.

The soil and climate of the valleys of the northern rivers are in most respects well adapted to the successful cultivation of the sugar-cane. Occasional spring frosts, however, cause considerable damage, and it was the risk of failure from this cause which led the settlers on the Macleay to seek a warmer climate farther north, free from the danger arising from frost. In this they only partially succeeded, for in the Clarence, Richmond, and Tweed valleys, frosts are not altogether unknown.

Progress of sugar-growing

The following table shows the progress of this industry during the last twelve years. The figures relating to the area yearly placed under cane are obtainable for earlier dates, but the number of tons produced cannot be ascertained prior to 1876. The sugar-cane not being an annual crop, the area under cultivation has been divided, as far as practicable, into productive and non-productive, the former representing the number of acres upon which cane was cut during the season, and the latter the area over which it was unfit for the mill, or allowed to stand for another year.

Area in Production of Sugar-cane.

Progress of sugar-growing.

Year.	Area.		Total.	Production in tons of cane.
	Productive.	Non-productive.		
	Acres.	Acres.	Acres.	
1863	....	....	2	....
1864	....	....	22	....
1865	.. ..	....	141	....
1866	....	... .	116	....
1867	....	....	647	....
1868	....	....	2,584	....
1869	....	....	3,917	....
1870	1,475	2,607	4,082	....
1871	1,995	2,399	4,394	....
1872	3,470	2,001	5,471	....
1873	3,565	3,105	6,670	... .
1874	4,087	4,453	8,540	....
1875	3,654	2,800	6,454	....
1876	3,524	3,231	6,755	99,430
1877	3,331	3,735	7,066	99,978
1878	2,949	4,489	7,438	104,192
1879	3,675	4,102	7,777	126,119
1880	4,465	6,506	10,971	121,616
1881	4,983	7,184	12,167	128,752
1882	6,362	7,176	13,538	169,192
1883	7,583	7,401	14,984	204,547
1884	6,997	10,520	17,517	105,323
1885	9,583	6,835	16,418	239,347
1886	5,915	9,202	15,117	167,959
1887	13,119	2,168	15,287	273,928

Increase of area under crop

The figures contained in the above table show the gradual progress of the sugar-growing industry, from the small beginnings of 1863. From the starting point of this cultivation until 1884, there is no break in the yearly increase of land put under cane.

During the two succeeding years, however, there was a tendency to retrogression, and the area now cultivated is less by 2,230 acres, or nearly 13 per cent., than in 1884. It is probable that the low price of sugar and the disturbed state of the markets of the world during these years, forced the sugar manufacturers to correspondingly reduce the price offered for the canes, and so caused the abandonment of this cultivation by the small farmers, who found in the growth of maize less variable results for their labour. The area cut this year is the largest yet cropped, but the yield per acre is 5·39 tons below the average of the previous ten years. Owing, however, to the large area of productive cane, the crop of 1887 is the heaviest yet handled in the sugar-mills of the north coast. It will be noticed that, although the area of productive cane cut during the last season is more than twice as large as that of the previous year, the total area under cultivation is, nevertheless, only 170 acres in excess of that of 1886. The area of productive cane in that year was a comparatively small one, as, over a considerable portion of the surface so cultivated the cane was not sufficiently advanced in growth to be cut, and was left to stand till the next season; hence the great increase to be noticed in 1887. The reverse will be the case next year, and the proportion of non-productive cane to the total area cultivated will be much greater than it has been last season.

Low price of sugar.

Principal centres of sugar-cane cultivation.

The Richmond River electorate is now the principal centre of sugar-cane cultivation, and in 1887, there were 486 holdings, upon which areas, varying from 2 to 520 acres in extent, were devoted to this culture. The total area so planted was 9,475 acres, or nearly two-thirds of the whole area under cane in the Colony. The yield obtained from 7,965 acres of productive cane amounted to 178,938 tons, showing an average of 22·4 tons per acre.

On the Clarence River, in the electoral districts of Grafton and the Clarence, there were, in 1887, 386 holdings, on which cane was grown, the aggregate area under this crop being 5,606 acres. As in the Richmond River district, the majority of farmers cultivate sugar-cane in addition to other crops, and only a few estates are entirely devoted to its cultivation. Some planters have areas of from 25 to 100 acres in extent under cane, but their number is very limited. The yield in the Clarence and Grafton electorates was 90,194 tons, or an average of 18 tons per acre, cut on an area of 5,005 acres.

In the Macleay River district, the area devoted to sugar-cane is now insignificant, only 180 acres having been returned in 1887 as under crop, of which 149 acres were productive.

Total crop of sugar.

The whole crop of sugar-cane during the last season amounted to 273,928 tons, obtained from 13,119 acres, showing an average production of 20·88 tons per acre, which is below the average of former years. On the estates belonging to the Colonial Sugar-refining Company, the conduct of the business of the plantation has been entrusted to practical men, and no money spared to obtain the most approved and complete plant for the manufacture of sugar. This company's mills on the Richmond River are among the most complete in any part of the world, and the sugar manufactured is equal to the best Mauritius and West Indian samples.

Beet-sugar competition.

In the adjoining colonies, great fears appear to be entertained lest the French and German beet-root sugar manufacturers, who receive substantial aid from their respective Governments, in the shape of export bounties, should enter into competition with the Australian sugar interest. The immense exportation of bounty-fed sugars has no doubt had the effect of lowering the price of the article all over the world, and the Australian planters necessarily suffer from this cause in an indirect manner. But in New South Wales, at any rate, there does not appear much ground for alarm that the local markets will be swamped by cheap bounty-fed sugar. Referring to the quantities and value of sugar imported into the Colony during the year 1887, it will be seen that the total quantity, both of raw and refined sugar imported

Quantity of sugar imported from Europe—small.

from France, Germany, and Belgium, amounted in the aggregate to the very small figure of 280 tons, valued at £5,337. If to this be added 797 tons of raw and refined sugars imported from Great Britain, on the supposition that they originally came from the bounty-giving continental countries, and the value of which is estimated at £15,735, it will be found that the total importations from European ports amounted in 1887 to only 1,077 tons of raw and refined sugar, valued at £21,072. When compared with the whole of the sugar imported during the year, viz., 26,292 tons, valued at £482,855, the insignificance of the European competition in the markets of New South Wales, will be at once apparent.

VINES AND WINE PRODUCTION.

In every part of the Colony, excepting the essentially subtropical portion, and the higher parts of the mountain ranges, grape vines thrive well, and bear large crops of succulent fruit. equal in size, appearance, and flavour, to the most renowned products of France, the Rhinelands, and Spain; yet the vine-growing and wine manufacturing industries are still in their infancy in this Colony, although their prospects are as hopeful as could be desired. With a demand which the present production hardly satisfies, and the opening up of a market in England, where New South Wales in common with other Australian wines have obtained due appreciation, the future of vine-growing appears fairly assured. The depreciation which French and other foreign wines have suffered, both in quantity and in quality, owing to the scourge of the phylloxera, is an additional reason for the vine-growers of New South Wales looking forward to a successful future for their industry.

Markets for Australian wine

Vine planted in early days.

The vine was planted in the early days of the colonization of New South Wales, but it was not until the year 1828 that vine growing and wine-making may be said to have been fairly established. In that year Mr. Busby returned from Europe with a large collection of cuttings from the most celebrated vineyards of France, Spain, the Rhine valley, and other parts of the continent of Europe, and planted, on his estate in the Hunter River district, a vineyard which has been the nursery of the principal vineyards of the Colony. Some years afterwards the vine was planted in the Murray valley, and in other portions of the Colony, and was found to flourish so luxuriantly that the manufacture of wine received considerable attention. For a time, however, the prospects of this industry seemed very poor, and production diminished considerably, owing, partly, to the want of a market, and partly to the fact that the wine-makers, many of whom were not vignerons by training, possessed only a limited knowledge of the manufacture of wine, and produced at first an article of inferior and unsaleable quality. But in the principal vineyards of the Murray and the Hunter, neither money nor pains were spared to introduce skilled labour and put up presses, vats, and other manufacturing appliances of the most approved pattern.

New South Wales wines at the Bordeaux Exhibition in 1882.

The results of this intelligent treatment became apparent, when prizes were awarded to the New South Wales wines at the Paris Exhibition of 1878, followed by an unbroken series of successes at the Exhibitions of Philadelphia, Sydney, Melbourne, and Amsterdam, and latterly at the Indian and Colonial Exhibition in London. But nowhere was the general excellence of the wines of New South Wales more fully recognized than at the Bordeaux Exhibition of 1882. There, in the principal centre of the wine trade of the world, the wines of New South Wales were classed by the most competent judges in the category of "Grands vins," and their value fully appreciated and established. The rewards obtained were numerous, and the wine industry, which had exhibited signs of retrogression, again brightened, and now promises to become one of the principal agricultural industries of New South Wales. The following statement shows the progress of the wine industry since 1862.

Progress of vine growing.

Area under Grape Vines and Production of Wine.

Year ended 31 March.	Total area under vines.	Area under vines for wine-making only.	Production.	Average per acre.
	Acres.	Acres.	Gallons.	Gallons.
1862	1,130	562	85,328	151·83
1863	1,460	795	143,888	180·99
1864	1,641	880	136,976	155·65
1865	1,849	945	161,299	170·69
1866	2,126	1,243	168,123	135·25
1867	2,281	1,358	242,183	178·33
1868	2,532	1,483	285,283	192·37
1869	3,117	1,917	412,587	215·22
1870	3,907	2,039	460,321	225·75
1871	4,504	2,371	342,674	144·53
1872	4,152	2,466	413,321	167·61
1873	4,090	2,568	451,450	175·80
1874	4,547	3,183	578,985	181·90
1875	4,301	3,077	684,258	222·37
1876	4,459	3,163	831,749	262·96
1877	4,457	3,217	799,709	248·59
1878	4,183	3,027	708,431	234·04
1879	4,237	3,024	684,733	226·43
1880	4,266	3,091	733,576	237·33
1881	4,800	2,907	602,007	207·09
1882	4,027	2,597	513,688	197·80
1883	4,448	2,629	543,596	206·76
1884	4,378	2,660	589,604	221·65
1885	4,584	2,405	442,612	184·04
1886	5,247	2,876	555,470	193·13
1887	5,840	3,131	601,897	192·23
1888	6,745	3,292	666,382	202·42
Average for 27 years				196·81

Increase of wine industry.

The above figures show that the wine industry has considerably increased during the twenty-seven years under examination, the total area planted being now six times as large as it was at the beginning of the period. The production shows a corresponding increase, and the average yield per acre has also advanced; but the latter is probably due to the fact that in the earlier period the proportion of young vines not in full bearing was greater than is at present the case. The years 1875, 1876, and 1879 were the best of the series, the average production having in 1876 reached the large figure of 262·96 gallons per acre.

The phylloxera vastatrix.

The "phylloxera vastatrix," which has caused some damage in the vineyards of the neighbouring colony of Victoria, necessitating stringent legislative measures, has also appeared in some vineyards of the Camden and Seven Hills districts, but, so far, without causing any great ravages. A commission was appointed some time ago to report on the appearance of the disease, and the best means of preventing its spread. The prohibition of the importation of vine-cuttings from abroad is so far the only piece of preventive legislation which has been enforced, the Act subsequently passed with the object of stamping out the disease having been found unworkable. During the last session of Parliament an enactment was passed, sanctioning and directing the destruction of affected vineyards, and compensating the owners for the loss sustained thereby.

Cultivation of table grapes.

The vine-growing industry is not, however, restricted to the cultivation of fruit for wine-making purposes; a considerable area is devoted to the cultivation of table grapes, principally in the neighbourhood of Sydney, and in the districts of Ryde, Parramatta, and other portions of Central Cumberland. The area so cultivated in 1887 amounted to 1,383 acres, producing 2,276 tons of grapes, or at the rate of 1½ tons of fruit per acre. There were also 2,070 acres of vines yet in an unproductive state.

ORANGES.

First orangeries near Parramatta.

The cultivation of the orange has become one of the principal industries of the districts surrounding the metropolis. The first orange groves were planted near the town of Parramatta, and soon spread to the neighbouring districts of Ryde, Pennant Hills, Lane Cove, the whole of Central Cumberland, and the Hawkesbury and Nepean valleys. The production of oranges has already attained such proportions that the growers are obliged to seek markets abroad for the disposal of their produce, as the demand, both in New South Wales and the adjacent colonies, is largely exceeded by the supply. Efforts have been made of late to open up a market in England, as the fruit can be delivered in London at a time when the supply of oranges from Spain and other countries of the northern hemisphere has ceased.

State of orange growing in 1879.

The statistics relative to this branch of the agricultural industry are only available from the year 1878, at which date there were 4,287 acres under orange cultivation, producing 3,398,445 dozen oranges. The following statement will, in some measure, illustrate the growth of the industry since the above-mentioned date; but it is believed that the actual yield is considerably in excess of the returns of the growers.

Area of Orangeries, and production of Oranges.

Year ended 31 March.	Area of Orangeries.	Production.	Average production per acre.
	Acres.	Dozen.	Dozen.
1879	4,287	3,398,445	793
1880	5,106	2,763,811	541
1881	5,939	3,810,356	642
1882	6,301	5,164,134	820
1883	6,716	4,978,829	741
1884	7,268	8,102,658	1,115
1885	6,911	4,097,666	593
1886	7,733	8,749,256	1,131
1887	7,920	6,376,868	805
1888	8,875	8,704,677	981
	Average for ten years...............		816

ORCHARDS AND GARDENS.

During the last ten years there has been very little alteration in the area under gardens and orchards. The cultivation of other varieties of fruit besides oranges and grapes appears to be retrogressing, instead of sharing in the progress observable in almost all other branches of agriculture. Yet the Colony consumes annually very large quantities of imported fruit, which could be successfully grown within its own limits. Leaving out of con-

Large quantity of fruit imported.

Importation of fruit.

sideration the large importation of tropical fruit from Fiji, New Caledonia, and Queensland, some of which might be cultivated in the sub-tropical portion of New South Wales, the importation of other fruit is very considerable. Thus in 1887, Tasmania, New Zealand, Victoria, and South Australia, and the United States, supplied New South Wales with 358,285 packages of green fruit, of the value of £116,195. The importation of dried and candied fruit during the same period amounted to 3,052 tons, valued at £101,354, and that of bottled fruit to £1,320. New South Wales is therefore dependent on the outside world, to the extent of over one quarter of a million sterling, for fruit, which could be advantageously cultivated within its own territory.

AGRICULTURAL IMPLEMENTS.

Agricultural implements.

A census of agricultural machines and other implements used in farming and cognate pursuits was taken in 1887, which showed the following as the number of the principal kinds used throughout the Colony.

	Number.		Number.
Bone Mills	132	Sheep-washing Machines.	52
Carts	52,624	Stills	68
Chaff Cutters	10,528	Turnip Cutters	148
Cheese Presses	1,289	Ploughs	41,961
Cheese-making Machines	302	Winnowing Machines	3,211
Corn Crushers	2,619	Strippers	2,680
Corn Shellers	7,375	Stump Extractors	368
Harrows	30,391	Wool Presses	2,364
Hay Presses	1,133	Wool Washing	185
Hay-making Machines	177	Steam Engines	985
Hay Rakes (Horse)	3,253	Reapers	1,503
Threshing Machines	726	Reapers and Binders	1,112
Wine Presses	384	Seed Sowers and Drills..	449
Mowing Machines	4,283	Hay-cutting Machines	310

The value of the implements and other articles mentioned in the above list is approximately £1,750,000, or about 35s. per acre of land cultivated.

PART XI.

Stock.

THE rapid settlement of the Colony has, in a great measure, been due to the fitness of its soil, vegetation, and climate, for the successful rearing of the principal species of stock which supply the wants of civilized men, and so largely contribute to the wealth of nations. For many years it was believed that a considerable part of Australia was quite unsuited for stock, and this opinion was fostered by the accounts of the earlier explorers, who reported that the interior of the continent was a vast desert. These apprehensions were soon dispelled, and the apparent difficulties offered to the successful rearing of stock disappeared before the energy of the colonists. One thing particularly favoured the settlers. Though the number of native animals was very considerable, comprising chiefly marsupials of little commercial utility, there happily existed no large species of carnivora which could seriously interfere with the increase in the flocks.

Humble beginnings of stock breeding.

The beginnings of pastoral enterprise in the Colony were very humble. The whole stock of the community which accompanied Captain Phillip comprised only 1 bull, 4 cows, 1 calf, 1 stallion, 3 mares, 3 foals, 29 sheep, 12 pigs, and a few goats; and although the whole of the present flocks and herds of Australia have not sprung from these animals alone, it will be seen on how small a scale the business of stock-raising was first attempted. No systematic record of the arrival of stock seems to have been kept in the early days of settlement, but it appears that in the period between Governor Phillip's landing and the year 1800 there were some slight importations, chiefly of sheep from India. In 1803 the number of sheep in the Colony was set down at 10,157. In 1825, thirty-seven years after the establishment of the Colony, there were in New South Wales 6,142 horses, 134,519 cattle, 237,622 sheep, and 39,006 pigs. In 1842 there were 56,585 horses, 897,219 cattle, 4,804,946 sheep, and 46,086 pigs. As soon as the produce of stock began to exceed the demand for food, the increase in number became very rapid, and, at the separation of Victoria, the stock of the Colony numbered 13,059,324 sheep, 1,738,965 cattle, 132,437 horses, and 61,631 pigs.

Separation of Victoria.

The severance of Victoria, then the fairest province of the mother Colony, involved a loss of 6,589,923 sheep, 390,923 cattle, 20,086 horses, and 7,372 pigs; so that in 1851 the flocks of New South Wales numbered 6,469,401 sheep, 1,348,042 cattle, 110,351 horses, and 54,259 pigs. After the separation of Queensland, the numbers of each kind of live stock within the existing boundaries of the Colony were 6,119,163 sheep, 2,408,586 cattle, 251,497 horses, and 180,662 pigs; in the following year the numbers showed a considerable decline, both from the effects of the season, and from the large demand which arose for stock for the stations of the new Colony; and in 1861 the figures were, 5,615,054 sheep, 2,271,923 cattle, 233,220 horses, and 146,091 pigs. From the numbers just given, the sheep had, at the beginning of 1888, increased to 46,965,152, the cattle had declined to 1,575,487, the horses had increased to 390,609, and the pigs to 264,111.

Separation of Queensland

SHEEP.

The suitability of the land discovered in New South Wales for pastoral pursuits was undoubtedly the means of leading the infant Colony to take its first step on the path of commercial progress; and it is not a little surprising at this distance of time how readily some of the settlers, in the face of the almost insurmountable difficulty of transport which existed a century ago, availed themselves of the opportunities at their disposal. The importation of valuable specimens of sheep from England or the Cape of Good

Land suited for pastoral pursuits.

Hope, prior to the advent of steam, was at all times attended with great risk, and it frequently happened that many of these costly animals died during the tedious voyage. These enterprises were, however, on the whole successful, and thus the flocks and herds of the colonists surely, if at first slowly, increased and multiplied.

Captain Macarthur promotes wool-growing

By the year 1795, Captain Macarthur, one of the first promoters of sheep-breeding in New South Wales, had accumulated a flock of 1,000, which were held in great estimation, and gradually increased in value, until, as recorded by an entry in his journal ten years later, the market price of a fat wether had risen to £5. Not satisfied with the natural increase of his flocks, Macarthur sought to improve the quality of his fleeces, by which means he could see opening before him the promise of great wealth, and the prospect of establishing important commercial relations with Great Britain. With these ends in view, he procured from the Cape of Good Hope, at great cost and trouble, a number of superior rams and ewes. A happy circumstance occurred which favoured his enterprise; for he had the good fortune to secure possession of three rams and five ewes of very fine Spanish breed, which had been presented by the King of Spain to the Dutch Government. These animals, out of a total of twenty-nine purchased at the Cape, arrived in Sydney in 1797, and were disposed of to various breeders. With the exception of Macarthur, however, those who had secured specimens of the superior breed made no attempt to follow up the advantage, being probably amply satisfied with the larger gains from the sale of an increased number of animals. Macarthur, on the other hand, thought little of present profits, and still less of breeding entirely for human consumption. He attentively watched the results of crossing his imported rams with the old stock, and by systematically selecting the finer ewes which were the offspring for further mingling with the sires, he gradually improved the strain, and in a few years obtained fleeces of very fine texture which met with the ready appreciation of English manufacturers.

Improvement of the flocks.

Spain formerly chief wool-grower.

Prior to the present century the production of the finest wool had been confined chiefly to Spain, and woollen manufactures were necessarily carried on in England upon a somewhat limited scale, which was not likely to improve in face of certain restrictions the operatives endeavoured to place upon their employers. These men, in support of their contention that the woollen trade could not be expanded, on account of the limited supply of the raw material, argued that fine wool was obtainable only in Spain; and it was at this favourable period that Macarthur arrived in England with specimens of the wool obtained from his finest sheep, conclusively proving the capabilities of Australia as a wool-producing country. In this way he opened up a small trade with English manufacturers, which, as Australian wool rose in public estimation, gradually increased until it reached its present enormous dimensions. During his visit to England Macarthur purchased an additional stock of ten rams and ewes of the noted Spanish breed, nearly equal in quality to those which in 1797 he had procured from the Cape of Good Hope. That these animals were the finest obtainable in Europe may be gathered from the fact they also had formed portion of a present from the King of Spain to George III. Thus did Macarthur, after his return to the Colony, patiently continue for many years the process of selection, with such success, that in 1858, when his flock was finally dispersed, it was estimated that his superior ewes numbered fully 1,000. Victoria secured a considerable portion of Macarthur's flock, and the process of breeding proceeded simultaneously in that and other adjacent colonies.

Trade opened with Great Britain.

Importation of sheep.

Although the increase in the numbers of the finer sheep was satisfactory, the importation of superior stock was not discontinued, and the stock of the colonies was augmented in 1823 and 1825 by the further introduction of Spanish sheep. Sheep-breeding was about that period commenced in the Mudgee district, and the climate of that region has produced a still more favourable result upon the quality of the fleeces than any other part of the Colony,

Texture of wool

and it is thence that the finest merinos are now procured. As might have been anticipated, the climate of Australia has in some respects changed the character of the Spanish wool. The wool has become softer and more elastic, and while having diminished in density it has increased in length, so that the weight of the fleece has only slightly altered. The quality of the wool has thus on the whole improved under the beneficial influence of the climate, and if no further enhancement in its value can be reasonably hoped for, there is at least every reason to believe that Australian wool will maintain its present high standard of excellence.

Number of sheep in New South Wales.

The following table, showing the numbers at the close of each year since the separation of Queensland, illustrates the progress of sheep-breeding :—

Progress of Sheep-breeding.

Year.	Number.	Year.	Number.	Year.	Number.
1861	5,615,054	1870	16,308,585	1879	30,062,910
1862	6,145,651	1871	16,278,697	1880	35,398,121
1863	7,790,969	1872	17,566,048	1881	36,591,946
1864	8,271,520	1873	18,990,595	1882	36,114,814
1865	8,132,511	1874	22,797,416	1883	37,915,510
1866	11,562,155	1875	25,353,924	1884	31,660,321
1867	13,909,574	1876	25,269,755	1885	37,820,906
1868	15,080,625	1877	21,521,662	1886	39,169,304
1869	14,989,923	1878	25,479,484	1887	46,965,152

Annual increase

The ratio of annual increase for the whole period is 7·7 per cent. Divided into five periods the ratios are—

1861–6 increase 13·7 per cent.
1867–71 „ 7·7 „
1872–6 „ 8·5 „
1877–81 „ 7·7 „
1882–7 „ 4·2 „

Natural law of increase.

The operation of the natural law regulating the increase of species, viz.—that the ratio of increase is inversely as the increase in the number of individuals—is only partially observable in these figures, though the tendency of the rate of increase to decline as the numbers advance is clear enough.

Causes modifying rate of increase.

Many causes tend to modify the rate of increase in the flocks of the Colony, but it will only be necessary to refer to the four principal factors. The character of the seasons is the largest element in determining the increase of sheep, a period of drought, or partial drought, especially if it extend over several years, having a most disastrous effect, though some compensation is found in the prolific years, which, as a rule, succeed bad ones. It is impossible to accurately estimate the losses from drought, but how great these must be may be gathered from the figures given in the preceding table. Thus in the four years, from 1880 to 1884, there was not only a loss of the natural increment, which in ordinary seasons would have amounted to about 10,000,000 sheep, but there was an actual loss of 3,737,800. The second cause which tends to check the increase of sheep is disease, but fortunately the flocks of the Colony have been entirely free from any serious disease for many years. The greatest precautions are taken to prevent the spread of infection, and the legislative enactments to secure this end are very stringent. Importation of stock from foreign countries was absolutely prohibited until the beginning of this year, and is only now permitted subject to certain restrictions, which are designed to make the introduction of any form of disease impossible, and all sheep from outside Australia are detained in quarantine before they are permitted to proceed to their destination. The other causes militating against a rapid increase are the demands of the other colonies, and the food supply of New South Wales itself. The requirements of the neighbouring colonies for sheep for slaughtering and breeding or fattening purposes are considerable, and tend to prevent that rapid growth formerly observable in the flocks of the Colony. Victoria is the chief customer for fat sheep, and Queens-

Requirements of other colonies check increase.

land for store sheep, but the importations, especially from the latter colony, are also considerable.

Export and import of sheep.

The export and import of sheep during the ten years, 1878–1887, is shown in the following table :—

Year.	Exported.	Imported.	Year.	Exported.	Imported.
1878	578,457	495,868	1883	1,006,227	205,558
1879	978,537	160,123	1884	1,942,204	404,371
1880	1,147,552	81,742	1885	1,237,155	1,134,439
1881	1,068,362	198,329	1886	1,247,514	288,225
1882	856,190	207,538	1887	1,218,504	864,313

Local demand formerly small.

The local demand for sheep for consumption was, until recent years, so small compared with the supply as not to appreciably affect the increase of the flocks of the Colony. Such, however, is not now the case, and the annual demand for slaughtering purposes is about 6 per cent. of the number of sheep depastured, and is, therefore, almost equal to half the annual cast. The question of the supply of sheep in the light of the possible demands of the future is dealt with elsewhere, and it will be seen that, enormous as are the numbers of stock in this and the neighbouring colonies, every year reduces the margin between the supply and demand.

Stock-carrying capacity of Colony.

The stock-carrying capabilities of the Colony are very difficult to estimate, as by far the greater portion of the country is yet in its natural state. Improvements, such as a better system of water conservation and irrigation, an intelligent extension of the salt-bush, cotton-bush, and other drought-resisting shrubs and natural grasses, and the cultivation of artificial fodder, are gradually being effected, and will indefinitely extend the capacity of the Colony for supporting stock of all descriptions.

Number of sheep in each colony.

The following table gives the number of sheep compared with the respective areas of the Australasian colonies, and shows the progress made by each in sheep farming:—

Colony.	Area in acres.	No. of sheep.	No. of acres per sheep.	Proportion of total number depastured in each colony.
New South Wales...	195,882,150	46,965,152	4·17	48·68
Victoria	56,245,760	10,623,985	5·29	11·01
Queensland	427,663,360	12,926,158	33·09	13·41
South Australia... ..	578,192,000	7,254,000	79·70	7·52
Western Australia...	624,588,800	1,909,940	327·02	1·98
Tasmania	16,880,000	1,547,242	10·91	1·60
New Zealand	66,710,400	15,254,198	4·37	15·80
Total	1,966,162,470	96,480,675	20·31	100·00

Colony stands first as sheep-breeder.

It will be seen that New South Wales stands first of all the colonies as a sheep-breeding country, both as regards the number of its flocks, and the number of sheep depastured per unit of area. But whilst Victoria has nearly reached the limit of its natural capabilities in this particular direction, a considerable proportion of its area being now devoted to agriculture, New South Wales has not yet approached these limits. In Queensland, as in South Australia, sheep-breeding does not absorb the attention of pastoralists to the same extent that it does in New South Wales. The former colony is more adapted to the breeding of cattle; whilst in the southern and more settled districts of South Australia greater attention is paid to the cultivation of cereals, its northern territory, like that of Queensland, being more adapted by nature to the breeding of cattle and horses. Western Australia is at present in the early stage of its colonisation; much of its area is still unknown, and it is therefore impossible to estimate its future as a sheep-breeding country. It may, however, be surmised that the southern portion of its immense territory will, in time to come, be stocked with sheep, whilst the northern portion will probably be found more suitable for the breeding of cattle and horses, on account of its resemblance to portions of Queensland and the northern territory of South Australia situated under the same

Certain colonies adapted for cattle.

latitude. It was thought at one time that cattle-breeding would occupy a position in New South Wales equal to that of sheep-breeding, but experience has shown that the general climatic conditions are more favourable to sheep than cattle, and the Colony is probably destined to remain, as it now is, the great sheep-breeding centre of Australia.

The different degrees of success attending sheep farming in different parts of the country has long since directed attention to the fact that each part of Australia is not equally fitted for the production of fine wools. New South Wales may be divided climatically into four zones:—(1) The coast country extending from the seaboard to the main range, the breadth of which varies from 20 to 100 miles; (2) the table-land districts on the summit of the range; (3) the upper part of the western slopes; and (4) the interior, or "salt-bush country."

Seaboard not suited to merino

The climate of the eastern seaboard for a considerable distance inland is too moist, and a large portion of it too poor, for the adequate sustenance of merinos, but it is probable that the coarser breeds of sheep would not deteriorate through the limited food supply and the rugged nature of the country. On the Hunter and other northern rivers, and in the southern coast districts, where the soil is very rich, dairy-farming and agriculture are the leading, and, no doubt, the most profitable, industries. Sheep-breeding is carried on to some extent in the regions towards the summit of the coast range; but, as in the case of the country near the sea, the soil as a rule is unfavourable to sheep. On crossing the coast range, however, the contrast between the aspect of the country just entered, and that left behind, is very striking. Here the grazing and wool-growing capabilities are at once apparent, and further to the westward a still greater improvement is visible.

Riverine country.

In the abundant pastures of the Riverine districts the wool is less fine than in the country immediately west of the table-lands, but the fleeces are generally sound and heavy. Further in the alt-bush country the wool suffers both in the weight of the fleece and in its quality; but the country is fattening, and the stock are generally more healthy than nearer the sea. In the country on he further side of the Darling the great summer heat is adverse o the production of heavy fleeces; but even here a fair class of wool is produced, as the stock-owners are constantly introducing fresh blood and so counteracting the tendency towards the degeneraion of the breed of sheep which might otherwise ensue.

Importation of stud sheep.

The importation of stud sheep from foreign countries, notably France, Germany, and America, which was continued for many years after the superfine quality of Australian wool had been established in the markets of the world, has now practically ceased; for it has become apparent that the fleece, instead of showing signs of deterioration under the influence of the climate, has, on the whole, a tendency to improve. The importation of sheep and cattle into New South Wales was prohibited for many years, owing entirely to the fear of the stock-owners that their herds would be contaminated by scab and other diseases prevalent in European flocks; but these restrictions were removed at the beginning of the current year, and several consignments of valuable sheep are now on their way to the Colony.

Superiority of Australian wool.

It is now generally admitted that as far as the fleece is concerned the Australian merino has little to gain by any further admixture of European or American blood, but it is equally admitted that there is room for improvement in the physique of the animal. To produce a larger carcase, without interfering with the quality of the fleece, many experiments have been made, but without much success, and it has been found that the crossing of noted breeds of English rams with Australian ewes has invariably resulted, after a generation or two, in a deterioration of the merino. The breeding of sheep for consumption, and for the sake of the wool, has, therefore, developed naturally into two distinct fields of industry.

Breeds of sheep.

The various breeds of sheep in the Colony are the Meri Lincoln, Leicester, Downs, and Romney Marsh, and crosses the long-woolled breeds, principally with the merino. In 1887 the respective numbers of merino and long-woolled sheep a cross-breeds, stood thus :—

Merino	46,009,710
Long-woolled sheep	384,519
Cross-breeds	570,923
Total	46,965,152

Subdivided as per following table :—

MERINO.

Combing.

Sheep.	Rams.	Ewes.	Wethers.	Lambs.	Total.	
			Superfine.			
Pure and stud	42,940	461,875	124,571	214,593	843,979	
Ordinary	76,031	1,744,904	1,341,129	1,221,672	4,383,736	
						5,227,
			Medium.			
Pure and stud	68,142	995,278	435,152	660,987	2,159,559	
Ordinary	171,128	5,796,684	3,857,549	3,579,810	13,405,171	
						15,564,
			Strong.			
Pure and stud	49,286	877,322	414,860	601,024	1,942,492	
Ordinary	116,878	4,179,713	2,647,385	2,795,268	9,739,244	
						11,681,
		Total, *Combing*				32,474,
			Clothing.			
			Superfine.			
Pure and stud	10,977	208,276	107,626	136,404	463,283	
Ordinary	25,019	536,257	572,454	302,941	1,436,671	
						1,899,
			Medium.			
Pure and stud	24,074	314,945	205,617	203,741	748,377	
Ordinary	65,203	2,579,689	1,752,776	1,550,674	5,948,342	
						6,696,
			Strong.			
Pure and stud	19,349	299,520	175,550	215,425	709,844	
Ordinary	49,794	1,811,695	1,191,705	1,175,818	4,229,012	
						4,938,
		Tot[illegible]				13,535,
		[illegible]				46,000

LONG-WOOLLED SHEEP.

Sheep.	Rams.	Ewes.	Wethers.	Lambs.	Total.	
			Lincoln.			
Pure and stud	3,075	31,338	27,301	23,471	85,185	
Ordinary	3,342	36,631	37,890	21,564	99,427	
	Total				....	184,612
			Leicester.			
Pure and stud	2,957	29,860	29,747	21,485	84,049	
Ordinary	2,545	22,638	19,947	15,990	61,120	
	Total				.. ..	145,169
			Downs.			
Pure and stud	626	3,678	1,991	2,949	9,244	
Ordinary	1,003	7,747	10,948	5,267	24,965	
	Total				....	34,209
			Romney Marsh.			
Pure and stud	10	91	173	69	343	
Ordinary	613	5,086	10,195	4,292	20,186	
	Total				....	20,529
	Total number, LONG-WOOLLED SHEEP					384,519
			CROSSES—Long-woolled with Merino Principally.			
Crosses.........	1,828	213,494	197,580	158,021	570,923	
						570,923
			Grand total..........................			46,965,152

The sexes and classes of sheep were estimated as follows:—

Rams	734,820
Ewes	20,156,721
Wethers	13,162,146
Lambs	12,911,465
	46,965,152

No necessity for housing stock.

The climate of New South Wales admits of stock of all kinds g left in the open air, and there is no necessity for housing during the winter months. The sheep are either kept in paddocks or under the care of shepherds, though on some stations they are both shepherded and paddocked.

Paddocked	44,725,073
Shepherded	1,238,868
Paddocked and shepherded	1,001,211
	46,965,152

It will be seen that a very large majority of the sheep are kept in paddocks. This system enables a large saving to be effected, and, at the same time, facilitates the general management of the runs. The fencing of sheep runs has also a great tendency to improve the stock. They not only get fatter when allowed to run loose in paddocks of moderate size, but also yield finer fleeces than when subject to constant rounding up by dogs, which accompanies the shepherding of flocks. Another advantage of the paddock system is that the percentage of lambs obtained under it is greater than among shepherded sheep. In 1887 the general average of lambs for the whole Colony was 76·75 per cent. for the paddocked sheep, and only 68·5 per cent. for the shepherded sheep. The lambing showed a much greater percentage for 1887 than for the previous year, and the increase in the flocks of the Colony was not less than 7,795,848, a number greater than was added in any former year, and due to the very fine season experienced throughout the Colony.

Percentage of lambing

WOOL.

The wool clip

The weight of the wool clip varies considerably from year to year, and averaged slightly higher during 1887 than in the preceding year. The amount of wool obtained during the ten years from 1877 to 1887 is shown below, the quantities representing the weight of clip if the sheep were shorn in the grease.

Year.	Amount of Wool.	Year.	Amount of Wool.
	lb.		lb.
1877	122,152,601	1883	216,681,213
1878	141,560,140	1884	201,899,941
1879	149,293,185	1885	193,775,477
1880	181,766,450	1886	203,013,090
1881	161,740,361	1887	256,072,430
1882	171,019,915		

Different systems of preparing the clip.

Various systems of preparing the clip for export obtain in ferent parts of the Colony, but by far the larger number of ep, perhaps 90 per cent., are shorn in the grease, the weight of ol obtained being 5 ℔. 9 oz.; from sheep hot water and spout hed, the average clip is 3 ℔. 12 oz.; from creek-water washed ep, 3 ℔. 1½ oz.; and from sheep scoured, 2 ℔. 4 oz.; lambs raged 1 ℔. 12 oz. of wool in the grease, and 1 ℔. 5 oz. when hed. Experience has shown what are the profitable limits hin which washing wool on the sheep may be attempted; and re washing is advantageous there has been no lack of enterprise btaining the plant necessary for the work.

Proportion of home-shipped wool increasing.

wing chiefly to the construction of railways into the interior the Colony, the proportion of wool which is shipped from the ts of the Colony, has largely increased in recent years; a very ge amount, however, is still sent to Melbourne and Adelaide for pment to Europe. The following table shows the shipments of ol produced in New South Wales from the ports of the three ghbouring colonies, as well as from the ports of this Colony.

Quantity of New South Wales Wool Exported.

ar.	N.S. Wales ports.	Victorian ports.	S. Australian ports.	Queensland ports.	Total.
	℔.	℔.	℔.	℔.	℔.
77	65,024,631	54,196,363	2,281,048	650.559	122,152,601
78	68,949,633	55,496,732	16,785,661	328,114	141,560,140
79	81,629,754	56,604,967	10,472,908	585,557	149,293,186
80	100,506,949	65,892,226	11,927,018	440,258	178,766,451
81	97,049,455	58,568,909	5,673,787	448,211	161,740,362
82	96,927,768	52,259,856	21,257,679	574,612	171,019,915
83	146,450,042	53,374,727	16,129,452	726,993	216,681,214
84	133,570,339	46,239,608	21,658,427	431,567	201,899,941
85	138,581,706	46,206,250	8,583,408	404,114	193,775,478
86	128,299,245	50,229,330	24,170,392	314,123	203,013,090
87	161,396,329	61,288,355	23,267,181	120,565	256,072,430

he weights given above are on the assumption that all the l was shipped in the grease. When washed wool has been pped, the weight of greasy wool required to give the quantity vashed wool has been estimated and included.

Wool shipped *viâ* Adelaide.

The amount of wool sent by way of Adelaide is especi affected by the state of the Darling River, increasing or dimini ing as the river is navigable or not, during the wool season. Murray, Murrumbidgee, and Darling Rivers were all navig during the wool season of 1887, and a larger proportion of found its way to the neighbouring colonies than in any year si 1882, while the total quantity was also larger than in any vious year. The proportion of the total clip reaching New So Wales ports compared with what was despatched by way of bourne, Adelaide, and Brisbane was—

Year.	Percentage shipped from New South Wales ports.	Percentage shipped fr other ports.
1877	53·23	46·77
1878	48·71	51·29
1879	54·67	45·33
1880	56·22	43·78
1881	60·00	40·00
1882	56·67	43·33
1883	67·59	32·41
1884	66·15	33·85
1885	71·67	28·33
1886	63·14	36·86
1887	63·05	36·95

Wool will continue to be shipped from Adelaide and Melbourne.

Under any circumstances, a large part of the wool clip of South Wales must find its way to Adelaide and Melbourne. Th ports are not only geographically nearer to the pastoral distr than Sydney, but communication with them is easier and costly, especially when the Murray and Darling waters are n gable. It is probable, however, that with the extension of trunk lines of railway some additional portion of the inte traffic will come to Sydney and Newcastle; but the limit wi which further extension may be possible will probably very be reached.

VALUE OF THE WOOL CLIP.

Wool the most important export.

The wool clip of Australasia is its most important item of duction, and it may be said that the prosperity of the colonie a large measure depends upon the value of this article and the state of the wool market. A small difference of 1d., and even a fraction of 1d. per ℔., when applied to the immense weight of the clips from 100,000,000 Australasian sheep, represents in the aggregate a very large sum of money.

A glance at the wool trade of New South Wales since the year 1860, when the Colony was for the last time subdivided, and lost its northern province of Queensland, will afford interesting matter for examination. The following table summarises the state of the export trade of New South Wales in wool during the period 1860–1887, and illustrates the growth of that important industry during the last quarter of a century; whilst, at the same time, the fluctuations in the value of the clip may be easily followed. The weights given represent the actual exports, washed and greasy wool being taken together.

Weight exported.

The Wool Trade.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	℔.	£		℔.	£
1860	12,809,362	1,123,699	1874	75,156,924	5,010,125
1861	12,745,891	1,396,426	1875	87,534,280	5,651,643
1862	13,482,139	1,283,818	1876	100,736,330	5,565,173
1863	14,791,849	1,262,274	1877	102,150,246	5,256,038
1864	25,827,917	2,294,615	1878	111,833,017	5,723,316
1865	29,858,791	2,283,560	1879	123,710,450	6,491,198
1866	36,980,685	2,830,348	1880	154,871,832	8,040,625
1867	21,708,902	1,711,322	1881	139,601,506	7,149,787
1868	25,721,632	1,879,751	1882	146,221,182	7,433,091
1869	51,269,672	3,162,522	1883	188,161,710	9,598,761
1870	47,440,610	2,741,141	1884	173,986,303	8,953,100
1871	65,611,953	4,748,160	1885	168,151,659	7,246,642
1872	50,233,453	3,342,900	1886	173,985,640	7,028,596
1873	31,606,846	2,201,910	1887	216,450,342	8,911,155

Effect of price of wool on national prosperity.

A careful examination of the preceding figures at once reveals the correctness of the fact just mentioned, that the fluctuations in the value of our staple article of export visibly affect the national prosperity. The exports for the years 1884 and 1886, for instance, which may be taken as practically equal in quantity, represented a value of £8,953,100 in the former year, whilst in the latter year their value was reduced to £7,028,596. In this particular case the figures exhibit a double loss—in the quantity, and in the value of the produce exported. In 1884 the export was equivalent to 197·5 lb. per head of the mean population, and the estimated value was set down at 9½d. per lb. for greasy wool. Had the quantity of wool exported in 1886 been in proportion to the increased population, the figures would have stood at 193,558,395 lb., instead of 173,985,640 lb. actually exported. Thus the loss suffered in quantity amounts to 19,572,755 lb. The actual difference in value of the two clips against 1886 amounts to £1,924,504; but if to this sum be added the value of the quantity which the Colony failed to export in that year, it will be found that the proceeds of the export of wool in 1886 were actually shorter by £2,931,716 than would have been realised had the prices and yield of 1884 been maintained. Again, comparing 1884 with 1887, the value of the clip exported was practically the same, yet there was a difference in quantity in favour of 1887 of nearly 42,500,000 lb., which at the price obtained in 1884 represents £1,682,291. The transactions of 1887, though much more satisfactory than those of the preceding year, both as regards quantity and value of clip, compares very unfavourably with 1884 in respect to the average price obtained.

Fluctuation in value.

The preceding table also shows that, although during the period under examination the value of wool has greatly fluctuated from one year to another, the tendency to a constant diminution of price is unfortunately too clearly discernible. In order to further illustrate the fluctuations in the value of this staple in the London market during the last ten years, the classification into scoured and greasy wool has been adhered to, and the following table will give curate idea of the average value realised for these two classes ool during the last period of ten years. The values given were ruling at the five principal sales of each year.

Value per lb. of Merino Wool in the London Market.

Sales.	1878.		1879.		1880.		1881.		1882.	
	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
eries	17	9½	16½	9½	19	12½	18	11	18½	11
"	16½	9	17	10	19	14	18½	11½	19	11
"	18	10½	16	9	19	12	18½	11½	19	10½
"	17	10	17½	10½	19½	12	18	11	18½	10½
"	16	9	...	...	19½	12	18½	11	18½	10½

Sales.	1883.		1884.		1885.		1886.		1887.	
	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.	Scoured.	Greasy.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
eries	18	10	16½	9½	16	9	13	7½	16	9¾
"	18	10	16½	9½	15½	8½	12	6½	15½	9¼
"	17	9½	16½	9½	14½	7½	14½	8½	15¼	9
"	17½	9½	17	10	13½	8	16½	10	14¾	8½
"	17½	10	16½	9½	13½	8	14	8½	14¾	8¼

Maximum price obtained in 1880

uring the period covered by the foregoing table scoured ney-shipped wool fluctuated between a maximum of 19½d. per nd a minimum of 12d.; and greasy wool realized from 6½d. 4d. The maximum prices for both descriptions of wool were ized during 1880, when the sales opened at 19d. and 12½d. lb. respectively. Prices were fairly well maintained in 1881 1882, but they began to decline rapidly until the lowest ket was reached in the early part of 1886, when scoured wool ized as little as 12d., and greasy 6½d. per lb. A slight improvement was noticed at the July sales of 1886, at which better prices ruled, and the increase was further stimulated by a brisker demand at the following sales in September; but the closing series in December once more exhibited a decrease of prices. There was again a slight improvement at the commencement of 1887, the price averaging from 2d. to 1¼d. per ℔. more than that current at the close of 1886. At each successive series of sales during 1887 prices showed on an average a slight decrease closing in the 5th series only ¾d. per ℔. better for scoured, and ¼d. per ℔. less for greasy than in the same series of the preceding year. It will be safe to predict that a return to the extremely prosperous years of 1871 to 1875, when scoured Sydney-shipped wool obtained as much as 26½d., and greasy wool 15d. per ℔., is very doubtful. With the present markets, however, there is no cause to view unfavourably the further extension of the production of wool in these colonies. In the ancient seats of wool growing, production is now stationary, and in some of the areas recently devoted to this industry, many causes, both climatic and otherwise, are likely to offer serious checks to its extension, while population and the consequent demand for wool is everywhere increasing. Nevertheless, it seems certain that unless fresh avenues are open to the wool industry in those countries where its use is comparatively unknown, it would be hopeless to expect a marked rise in the value of the article. The establishment of a market for Australian wool among the teeming populations of China and Japan, where the nature of the climate itself points out the value of wool as an article of clothing, is an object towards which the intelligent glance of the statesmen of Australia might well be directed.

Fluctuation of prices of wool.

China and Japan as a market for wool.

Combing and clothing wool.

It is a moot question as to whether the climate of New South Wales is more adapted to the production of a combing than a clothing wool. Although the former is looked upon with most favour by wool growers, it is generally recognised that there are very large tracts of country, especially where the salt-bush predominates, on which it is difficult to raise a good combing wool, and where it will probably be found more profitable by wool growers to give greater attention to the cultivation of the clothing variety.

Coarse-woolled sheep.

The breeding of coarse-woolled sheep, for the metropolitan market, is confined chiefly to the districts along the coast. The stock raised for this purpose are principally of the Leicester and Southdown breeds, the former being perhaps the greater favourite as a producer of fat lambs. There is no doubt but that, cultivated solely as an article of food, the course-woolled sheep is quite as profitable as the merino.

Wool clip of Australasia.

The quantity and value of wool, the produce of each of the various colonies of Australasia, grown during the year 1887, will be found below.

Colony.	Quantity.	Value.
	lb.	£
New South Wales	256,072,430	9,496,019
Victoria	61,619,113	2,772,860
Queensland	69,801,253	2,297,625
South Australia	40,622,400	1,184,820
Western Australia	10,695,664	311,959
Tasmania	9,128,717	410,793
New Zealand	88,366,253	3,313,734

Value of clip.

The estimated value of the wool grown in each colony may appear anomalous, when the weight of the clip only is considered. It must be borne in mind, however, in comparing the weight and value of this staple, that there is a wide margin of difference in the average value per lb. of the wool grown in one colony and that grown in another.

Consumption of wool.

The quantity of wool consumed by the manufacturing nations of the world amounted in 1887 to 1,872,000,000 lb. Of this quantity 930,000,000 lb., or scarcely half, was grown in the various

Consumption of wool.

countries engaged in manufacturing, and of the balance 430,000,000 lb., or about 44·6 per cent., was Australasian. The consumption of wool was thus distributed :—

	Home production.	Imports.	Total consumption.
	lb.	lb.	lb.
United Kingdom	134,000,000	258,000,000	392,000,000
Continental Europe	450,000,000	580,000,000	1,030,000,000
North America	346,000,000	104,000,000	450,000,000
Total..................	930,000,000	942,000,000	1,872,000,000

Principal wool consuming countries.

During the past ten years a considerable change has taken place in the markets available for the shipment of wool; the United Kingdom is no longer the first amongst wool-manufacturing countries, though its consumption of imported wool is still equal to 27·3 per cent. of the total wool imported. The relative positions of the United Kingdom, America, and continental Europe as wool consumers during the past ten years may be gleaned from the following table :—

Year.	United Kingdom.	Continental Europe.	North America.	Grand Total.
	lb.	lb.	lb.	lb.
1878	352,000,000	905,000,000	259,000,000	1,516,000,000
1879	321,000,000	889,000,000	312,000,000	1,522,000,000
1880	370,000,000	882,000,000	381,000,000	1,633,000,000
1881	320,000,000	952,000,000	355,000,000	1,627,000,000
1882	357,000,000	969,000,000	385,000,000	1,711,000,000
1883	340,000,000	969,000,000	418,000,000	1,727,000,000
1884	381,000,000	1,017,000,000	422,000,000	1,820,000,000
1885	365,000,000	1,021,000,000	444,000,000	1,830,000,000
1886	418,000,000	1,033,000,000	460,000,000	1,911,000,000
1887	392,000,000	1,030,000,000	450,000,000	1,872,000,000

Wool-producing countries.

An exact estimate of the produce of the various countries of the world cannot be given, but sufficient information is obtainable from which the relative importance of the different producing areas may be determined for the year 1886. As regards South America, the figures represent the exports, but as very little manufacturing is carried on there, they may be taken as indicating the total production.

Producing areas.	Sheep.	Production.	
		Raw wool.	Clean wool.
		lb.	lb.
Europe	196,165,848	584,000,000	400,000,000
Asia (India and Caucasus)	18,985,057	100,000,000	50,000,000
Africa	22,958,209	75,000,000	45,000,000
North America	48,281,115	346,000,000	168,000,000
South America (excluding Brazil)	104,928,607	340,000,000	120,000,000
*Australasia	86,363,889	430,000,000	220,000,000
	477,682,725	1,875,000,000	1,003,000,000

* 1887-8 shows a large increase over the figures for 1886 given in this table.

CATTLE.

Cattle breeding.

Though still a most important industry, cattle-rearing does not now occupy so prominent a place as formerly. In 1861, the value of the horned cattle depastured in the Colony was about £7,000,000, while that of the sheep was not more than half this sum. In 1887, the relative positions of the two classes of stock had entirely changed; for, while the cattle were valued at £7,500,000, the sheep were worth £17,600,000, notwithstanding that in the interval cattle had considerably risen in value, and sheep had depreciated. The number of cattle returned during each year since

Yearly return of cattle.

1861 is shown in the subjoined table, and it will be noticed how regular has been the decline in the totals since 1875.

Year.	Number of cattle.	Year.	Number of cattle.
1861	2,271,923	1875	3,134,086
1862	2,620,383	1876	3,131,013
1863	2,032,522	1877	2,746,385
1864	1,924,119	1878	2,771,583
1865	1,961,905	1879	2,914,210
1866	1,771,809	1880	2,580,040
1867	1,728,427	1881	2,597,348
1868	1,761,411	1882	1,859,985
1869	1,795,904	1883	1,640,753
1870	2,195,096	1884	1,425,130
1871	2,014,888	1885	1,317,315
1872	2,287,660	1886	1,367,844
1873	2,794,327	1887	1,575,487
1874	2,856,699		

Substitution of sheep for cattle.

If the above figures be compared with the returns of sheep for the same period, it will be found that the change which has taken place in the class of stock has been most remarkable. It is very debatable whether the substitution of sheep for cattle will in the end prove advantageous to the State, though there does not appear to be any doubt that sheep-breeding is at present more profitable to the individual owner. The increase in the number of cattle depastured in the Colony during 1887 was 207,643; but since 1875 there has been a decrease of 1,558,599. The improvement in 1887 is due to various reasons, chief amongst which is the good season experienced throughout the Colony. Considerable numbers of store cattle have also been introduced from Queensland, and there has been a disposition on the part of some owners to revert to cattle-breeding instead of sheep.

The principal breeds of cattle now in the Colony are shorthorns, Hereford, Devons, Ayrshire, Alderneys, and crosses from these

Principal breeds of cattle in Colony.

various breeds. At the close of the year 1887, the numbers of each breed, as far as could be ascertained, were :—

Shorthorns—	Pure and stud	43,402	
	Ordinary	642,140	
			685,542
Hereford—	Pure and stud	17,534	
	Ordinary	179,131	
			196,665
Devon—	Pure and stud	7,502	
	Ordinary	56,240	
			63,742
Black-polled—	Pure and stud	312	
	Ordinary	831	
			1,143
Ayrshire—	Pure and stud	1,277	
	Ordinary	3,297	
			4,574
Others—	Pure and stud	367	
	Ordinary	580	
			947
Crosses—	Pure and stud	2,230	
	Ordinary	620,644	
			622,874

The cross-breeds were estimated as follows :—

Shorthorn and Hereford	218,065
Shorthorn and Devon	64,641
Hereford and Devon	34,065
Shorthorn and black-polled	1,551
Ayrshire, &c., and shorthorn	3,900
Unrecognizable	300,652
	622,874

"Cast" of cattle in 1887.

The number of cattle available for market during the year 1887 is estimated to have amounted to 278,081 head of fat cattle, and 160,319 head of stores. These numbers are certainly very high, if the produce of the herds of the Colony be alone considered. The cattle trade with Queensland is, however, very considerable, especially in store cattle sent to this Colony for fattening; these serve to swell the nominal cast of the herds of the Colony to the figures given above. If the produce of the Colony alone be reckoned, the cast for the year 1887 was 205,175 fat and store cattle, and the cast for 1888 will probably be 236,323 head.

Breed of cattle improved.

The breed of cattle throughout the Colony is steadily improving, a result due to the introduction of good stud stock, as well as the care exercised in selection. Cattle are for the most part kept in paddocks, and of the total number in the Colony 1,150,511 are paddocked, 254,592 are in open runs, and the remainder, 170,384, are depastured both ways.

MEAT SUPPLY.

Food supply of the colonies.

The magnitude of the pastoral interests of Australia, and the existence of a large surplus of stock have served to divert attention from the question of the permanence of the surplus. The matter is not one of merely abstract importance, but has a practical bearing on the question of the food supply of these colonies, as well as of the possibility of the continued export of meat to the markets of the Old World. In dealing with this question, it will be necessary to consider, not only New South Wales, but the whole of Australia. The advisability of so treating the stock of the colonies must be apparent, when it is borne in mind that the constant crossing and recrossing of flocks and herds from one colony to another for breeding, fattening, or other purposes, entirely destroy the value of any set of figures relating to one colony, as distinct from the whole group. This is especially the case in considering the important question of the cast, or percentage of stock available for market during each year. In a purely fattening country the cast will appear very high, and on breeding stations correspondingly low. A combination of all classes of runs will alone give true results, and this can only be obtained by considering the whole of continental Australia as if it were one run. In the following computations New Zealand and Tasmania have been excluded, the figures given referring only to the Continent.

Effect of increase of population.

The people of Australia, in ordinary years, consume by far the larger part of the meat produced in the country, and even in the most abundant seasons, the surplus exported forms but a small portion of the total quantity produced. The ratio at which population tends to increase is, therefore, an important element in this question. The population of the colonies increased at the rate of 3·14 per cent. for the ten years 1871–81, but the increase was much more rapid towards the close of this period than in the earlier years, and the annual increase may now be taken as 3·60 per cent.

Annual increase of cattle.

It has already been pointed out that the rate of increase of stock has been very erratic. For some periods indeed there has been an absolute decline both in sheep and in cattle; yet, through a series of years, the ratio of increase may be discerned. Thus, the increase of cattle may be set down as 1 per cent. per annum, and though the experience of some districts, or even colonies, may seem to warrant the adoption of a larger ratio, the experience of all colonies fixes the percentage given. The increase in sheep is much more rapid than cattle. There is not only a smaller demand for mutton than for beef, but sheep have been less affected by drought and disease than cattle, and the increase in their numbers has consequently been much greater. For all Australia the ratio of increase may be taken as 4·22 per cent. Combining the two classes, sheep and cattle, under the common designation of stock, the ratio of increase is 2·23 per cent. It is necessary to treat both classes of stock together, as the deficiency in the supply of mutton is made good by beef, and the reverse is also true; for, though the consumption of meat may remain the same in quantity, it differs in kind, in the different colonies and in different years. Beef is the predominating meat diet in some parts, mutton in others, and almost an equal proportion of both in other places, as in Sydney.

Annual increase of sheep.

Annual cast of stock.

The cast, or quantity of stock annually available for market, can only be determined by the experience of experts. The most diverse opinions prevail in regard to this matter, especially amongst those whose experience is confined to one class of country. The best authorities agree very closely, however, in fixing the annual cast of cattle at 11·7, and that of sheep at 12·34 per cent.

Consumption of meat.

The consumption of meat in these colonies is very large. In New South Wales the annual consumption is 170 ℔. of beef, and 90 ℔. of mutton per head, or a total of 260 ℔., including all waste. This amount is probably also the average of the whole of the colonies. The total consumption of meat on the basis of the population at the close of 1887 would be 476,000,000 ℔. of beef and 252,000,000 ℔. of mutton, in all 728,000,000 ℔. To meet this the cast of 7,916,520 head of cattle and 79,679,235 sheep would equal 648,000,000 and 472,000,000 lb. respectively, in all 1,120,000,000 lb., so that there would be a surplus of 172,000,000 lb., or 36 per cent., of beef and 220,000,000 lb., or 87 per cent., of mutton; the total surplus being 392,000,000 lb., or 54 per cent., of the annual food supply of Australia. It would therefore appear that the present cast of stock would supply food for 1,500,000 persons more than were in Australia at the close of the year 1887, supposing that the present large consumption continued.

Population will overtake supply.

As the population tends to increase at a faster rate than the food supply, the annual increase of population being 3·6 per cent., while that of animal food is only 2·23 per cent., the demand of population, no matter how large the present surplus may be, will inevitably overtake the supply. How long it will be before this contingency arises it would be unsafe to predict. The present consumption of meat is very great, and may reasonably be expected to decrease, and approach nearer the average of older countries. The loss of stock, which has hitherto been unreasonably large, may also be greatly reduced in future years. So, from a decreased demand and a diminished loss, the day when the meat supply will be no greater than the demand may be postponed for some years. Arguing, therefore, on the basis of the facts gleaned from past experience, the time when the demand of Australia for beef and mutton will overtake the local supply is not a matter which practically concerns the present generation.

Decrease in consumption may be expected.

Surplus of meat in New South Wales.

New South Wales is perhaps more favourably situated than the other continental colonies in respect to meat supply derived from its own territory. It has, relatively, more stock than any other colony, and the yearly cast is larger than the average of all Australia. Against this, its population increases much more rapidly, and although the meat supply increases at the rate of 3·5 per cent. in each year, and shows a present surplus of 135,000,000 lb., or more than one-third of the entire surplus of Australia, its population increases at the rate of 4·5 per cent., thus somewhat counter-

Consumption of meat, and cost.

balancing the gain from a larger cast and more extensive flocks. The total consumption of meat in the Colony at the end of 1887 amounted to 271,000,000 lb., while the total cast or return from cattle and sheep amounted to nearly 406,000,000 lb. The former, increasing at 4·5 per cent., will overtake the latter, at 3·5 per cent. per annum, in forty-two years. It would, therefore, appear that the danger of the meat supply failing has no practical interest, as before the forty-two years have expired the condition of the Colony will probably be very different from what it is to-day.

Slaughtering for food.

Slaughtering for food is permitted only in places licensed for the purpose, but such establishments are very numerous. In the metropolitan district there are 18, and in the country districts 1,304 slaughter-yards, employing respectively 283 and 2,925 men, in all 1,322 establishments, and 3,208 men. The quantity of meat consumed in the metropolitan district during the year is about 270 lb. per head, comprising 130 lb. mutton and 140 lb. beef, to produce which 923,858 sheep and lambs and 68,901 head of cattle were slaughtered in 1887. In the rest of the Colony the demand for beef greatly predominates, the yearly quantity being 68 lb. mutton and 186 lb. beef, making a total of 254 lb. per head, a quantity somewhat less than obtains in Sydney and its suburbs. The stock slaughtered in the country districts during 1887 was 975,372 sheep and 180,388 cattle. In addition to the stock mentioned above, there were slaughtered 85,335 pigs—38,978 in Sydney, and 46,357 in the country. The following table shows the quantity of stock of each kind killed for food in 1887 :—

Stock.	Number Slaughtered in 1887.		
	Metropolitan.	Country.	Total.
Sheep	894,174	946,067	1,840,241
Lambs	29,684	29,305	58,989
Bullocks	51,031	128,726	179,757
Cows	10,515	45,728	56,243
Calves	7,355	5,934	13,289
Pigs	38,978	46,357	85,335

DAIRY FARMING.

Dairy farming a promising industry.

Dairy farming has made very rapid progress of late years, especially in the south coast districts, and promises to develop into a very important industry. The number of dairy cows during the early part of the year 1888 may be estimated as 222,383, thus distributed :

Number of Dairy Cows.

Metropolitan District ...	5,348	Macleay	2,584
Albury	899	Macquarie, East	1,827
Argyle	6,393	Macquarie, West	1,681
Balranald	1,244	Maitland, East	1,307
Bogan	4,289	Maitland, West	136
Boorowa	840	Molong	1,896
Bourke	1,981	Monaro	5,678
Braidwood	3,800	Morpeth	1,478
Camden	21,817	Mudgee	4,620
Carcoar	2,688	Murray	1,936
Clarence	917	Murrumbidgee	4,498
Central Cumberland	2,703	Namoi	1,803
Durham	3,339	Nepean	3,861
Eden	30,517	Newcastle	379
Forbes	2,610	New England	4,378
Glen Innes	2,433	Northumberland	1,163
Gloucester	2,967	Orange	2,294
Goulburn	230	Parramatta	230
Grafton	3,591	Patrick's Plains	5,700
Grenfell	3,799	Queanbeyan	2,679
Gundagai	2,999	Richmond	8,165
Gunnedah	1,756	Shoalhaven	18,361
Gwydir	1,133	Tamworth	3,970
Hartley	2,117	Tenterfield	2,174
Hastings and Manning ...	2,600	Tumut	2,711
Hawkesbury	1,925	Wellington	1,136
Hume	3,579	Wentworth	673
Hunter	3,010	Wollombi	1,949
Hunter, Upper	5,270	Yass Plains	1,440
Illawarra	8,903	Young	3,293
Inverell	2,065		
Kiama	15,838		222,383

Constant attention to the peculiarities of the climate, and the wants of the colonists, as well as the judicious crossing of strains, have developed a breed of cows peculiar to Australia. This is especially the case in the coast districts immediately south of Sydney, though all well-known breeds of milkers are found in New South Wales. The quantity of milk consumed in making

Butter and cheese made.

Factory butter

Hands employed.

tter and cheese may be set down as 64,000,000 gallons in the ar 1887, and the weight of the butter made 16,106,191 ℔., and cheese, 5,779,595 ℔. The yield of milk averages daily about gallons per head milked. The quantity of milk required to make iven weight of butter varies considerably according to whether e milk is treated by a separator or in the old fashion. A great oportion of the butter now made is what is usually termed factory separator-made, and the average quantity of milk used per ℔. of tter produced is 2·6 gallons. For ordinary hand-made butter the antity required is from 3 to 4 gallons, thus showing a saving of bout 33 per cent. by the former method, in addition to the extra alue of the butter, the price during 1887 being about 3d. per ℔. igher in the Sydney markets for the factory-made than for the rdinary kind. No statistics respecting the manufacture of butter nd cheese were collected prior to last year, so comparison with rmer years is impossible. The number of hands employed at airy farming during 1887 was approximately 10,000; of these ,065 were employed in the various factories. The factories umbered 205, with plant of 222 horse-power, valued at £28,864. he quantity of butter and cheese imported and exported has of ourse varied greatly with the seasons. The following table shows e trade in these commodities during the past ten years :—

Year.	Butter.				Cheese.			
	Imported.		Exported.		Imported.		Exported.	
	℔.	£	℔.	£	℔.	£	℔.	£
1878	451,920	21,379	726,832	35,664	541,919	20,112	81,791	3,033
1879	105,056	3,919	1,098,522	39,431	246,139	8,240	141,138	4,334
1880	228,144	7,063	1,227,059	35,849	115,678	4,462	173,829	5,082
1881	660,128	30,741	762,397	25,674	171,544	5,687	145,833	4,581
1882	1,654,016	90,422	437,856	25,903	331,944	12,428	163,378	6,216
1883	1,813,504	88,860	778,635	34,478	161,753	8,042	359,742	11,920
1884	2,791,936	147,148	621,292	28,550	725,177	22,688	247,337	8,099
1885	3,624,992	118,195	521,473	27,753	769,148	29,163	123,585	3,986
1886	3,129,392	159,536	287,029	14,853	1,229,334	43,508	85,815	3,459
1887	1,034,544	39,481	1,041,223	31,837	318,099	10,801	247,826	6,040

Butter and cheese making districts.

A former table shows the number of dairy cows in each electoral district. The following are the districts in which the largest quantity of butter and cheese are made :—

District.	Butter made.	Cheese made.
	lb.	lb.
Argyle	381,509	66,597
Camden	1,658,580	40,848
Eden	3,049,024	4,843,305
Illawarra	2,112,128	8,520
Kiama	1,519,414	416
Monaro	81,366	340,880
Shoalhaven	2,703,610	41,546
Other districts	4,600,560	437,483
	16,106,191	5,779,595

HORSES.

Horse-breeding.

New South Wales is eminently fitted for the breeding of most descriptions of horses, and attention has long been directed to this industry. At an early period of its history, the Colony was enriched by the importation of some excellent thoroughbred Arabians from India; and the high name which was acquired by the horses of Australia was largely due to this cause. The abundance of good pasture everywhere obtainable also contributed to this result. The native kangaroo-grass, especially when in seed, is full of saccharine matter, and young stock thrive excellently upon it. This abundance of natural provender allowed a large increase in the stock of the settlers, which would have been a great advantage, had it not been that the general cheapness of horses led to a neglect of the canons of breeding. The discovery of gold speedily cured one evil. Horses became very high priced. Under ordinary conditions, this circumstance would have been favourable to the breed of horses, and such was the case in Victoria. In this Colony it was far otherwise. The best of the stock of New South Wales, including a large proportion of the most valuable breeding mares, were taken by Victoria, with the result that for twenty years after the gold rush the horses of the Colony were greatly deteriorated. One class of stock only escaped. The thoroughbred racer was probably improved both by the importation of fresh stock from England, and by the judicious selection of mares. The period of deterioration ended about the year 1870, since which year there has been a perceptible improvement in all classes of horses. The number of horses in New South Wales shows little increase for the last sixteen years, as may be seen from the table below.

Partial deterioration of stock.

Year.	Number of horses.	Year.	Number of horses.
1872	328,408	1880	395,984
1873	334,462	1881	398,577
1874	346,691	1882	328,026
1875	357,696	1883	326,964
1876	366,703	1884	337,172
1877	328,150	1885	344,697
1878	336,468	1886	361,663
1879	360,038	1887	390,609

The annual increase in the number of horses has been not more than 1·09 per cent. during the whole period covered by the above table, while the increase of population has been at the rate of 4·26 per cent.

For purposes of classification the horses of the Colony have been divided into draught, light-harness, and saddle-horses, the numbers of each particular kind being as follows :—

Classification of horses.

Class.	Thoroughbred.	Ordinary.	Total.
Draught	17,255	112,026	129,281
Light-harness	13,098	89,610	102,708
Saddle	22,452	136,168	158,620
Total	52,805	337,804	390,609

The Colony is specially adapted for the breeding of saddle and light-harness horses, and it is doubtful whether these particular breeds of Australian horses are anywhere surpassed. The bush

Saddle and harness horses.

Endurance of colonial horses

horse is hardy and swift, and capable of making very long and rapid journeys, when fed only on the ordinary herbage of the country; and in times of drought, when the grass and water have become scanty, these animals often perform astonishing feats of endurance. Generally speaking, the breed of horses is improving, owing to the introduction of superior stud horses and the breeding from good mares. Where there has been a deterioration in the stock, this has been due to breeding from weedy mares for racing purposes and from the effect of the drought.

The approximate number of animals annually fit for market is:—

Draught-horses	19,731
Saddle ,,	26,938
Light-harness horses	18,103
Total	64,772

India and China markets.

Of these it is estimated that nearly 15,446 are suitable for the Indian and China markets. The total number leaving the Colony for markets outside Australia during 1887 was only 334. Although the demand for horses in India is considerable and Australia is a natural market from which supplies may be derived, there is no one employed by the Indian Government to make himself acquainted with the resources of the various colonies, or to furnish information to intending shippers. The speculation of sending horses to India is one open to many risks, as, apart from the dangers of the voyage, there is always an uncertainty as to the stock being accepted. Owing, therefore, to the limited demand, it has not been found advantageous to breed horses for any but local requirements, and the attention of pastoralists is almost exclusively devoted to sheep and cattle breeding, the returns from which are more regular and profitable.

Foreign deman for horses limited.

PIGS.

Pig-breeding neglected.

The breeding of pigs has also been very much neglected in New South Wales, so that in 1887 the number of stock was less than in 1880. Considering the importance which the industry has attained in other countries, it is a matter of surprise that more attention has not been paid to it in this Colony, where the conditions of farming in many parts, more especially in the coast districts, offer great facilities for the raising of this class of stock. The estimated value of pigs in the Colony at the close of 1887 was £659,750, and the estimated return therefrom for the year was about £263,900. The following table shows the number of pigs in New South Wales for each year since 1860 :—

Value of annual cast.

Year.	Number of pigs.	Year.	Number of pigs.
1861	146,091	1875	199,950
1862	125,541	1876	173,604
1863	135,899	1877	191,677
1864	164,154	1878	220,320
1865	146,901	1879	256,026
1866	137,915	1880	308,205
1867	173,168	1881	213,916
1868	176,901	1882	154,815
1869	175,924	1883	189,050
1870	243,066	1884	211,656
1871	213,193	1885	208,697
1872	218,904	1886	209,576
1873	240,680	1887	264,111
1874	219,958		

PASTORAL PROPERTY.

Value of pastoral property.

Pastoral property and stock form the largest factor in the wealth, not only of New South Wales, but also of all the other principal colonies of Australasia, and the return derived therefrom is the largest source of the income of its inhabitants. The total capital value of pastoral property, including land, improvements, and plant, as well as stock, is estimated at £363,000,000, and of this large sum £157,000,000, or 43⅓ per cent., belongs to New South Wales.

Total Live Stock in Australasia.

The number of stock of all kinds in each colony at the commencement of the year 1888, cannot be exactly determined, as no census was taken in New Zealand, but the approximate numbers were as follows :—

Colony.	Sheep.	Cattle.	Horses.	Pigs.
	No.	No.	No.	No.
New South Wales	46,965,152	1,575,487	390,609	264,111
Victoria	10,623,985	1,333,873	315,000	243,461
Queensland	12,926,158	4,473,716	305,865	73,663
South Australia	7,254,000	440,000	170,000	179,000
Western Australia	1,909,940	93,444	41,100	23,627
Tasmania	1,547,242	147,092	29,528	52,408
New Zealand	15,235,561	853,358	187,382	277,901
Total	96,462,038	8,916,970	1,439,484	1,114,171

Relative importance of each colony.

New South Wales, therefore, ranked first as regards the number of sheep—46,965,152 out of a total of 96,462,038, or 48·69 per cent. being depastured within its limits. In regard to cattle, this Colony stood next to Queensland, having 1,575,487 head of cattle out of a total of 8,916,970, or 17·67 per cent. of the whole of the cattle of Australia. As a horse-breeding country New South Wales came first, with 390,609, or 27·13 per cent. of total horses of the colonies, Victoria coming second with 315,000 head. New Zealand had, when the last census was taken, a few more pigs than any colony—its total being 277,901, or 24·95 per cent. New South Wales ranked second with 264,111, or 23·70 per cent.

The number of sheep and cattle runs in the Colony during the year 1887 was 39,089, of which 30,888 were enclosed, and 8,201 were open or unenclosed. The area comprised in these holdings was 166,000,000 acres, about 26,000,000 acres being freehold, and 140,000,000 acres leased from the State. The improvements effected on pastoral estates for fencing and for watering stock have been valued by the Chief Inspector of Stock at £56,527,323. Of this sum fencing absorbs £50,024,148, representing 998,486 miles at an average rate of £50 2s. per mile. The dams for watering stock number 20,558, which, at an average value of £85 14s., give a total value of £1,762,069. There were 21,561 excavated tanks, worth on an average £193 10s., or, in all, £4,172,568, while the number of wells sunk or bored number 2,738, the average value of each well being £207 13s., and the total of all wells being £568,538.

Dams and fencing.

For the purpose of watering stock along routes reserved for travelling, tanks, wells, and reservoirs have been constructed by the Roads Department, and artesian wells by the Mines Department. There are 110 excavated tanks, 8 impounding reservoirs, and 28 wells of the ordinary kind. The standard depth of a tank is 18 feet, the capacity varying from 2,000,000 to 3,500,000 gallons, exclusive of the water stored above the surface of the ground by means of embankments formed of the excavated materials, including this quantity the average capacity of tanks is about 5,500,000 gallons each, with a total storage of over 600,000,000 gallons. In nearly every case appliances for lifting and economically distributing the water have been provided to the tanks. There have been erected 51 steam pumps, 48 pumps worked by horse-power, and 1 by hot air. The water is lifted from the tank into a wrought-iron distributing cistern of a capacity of 20,000 gallons, whence it gravitates into a steel trough about 100 yards in length, and from this the stock drink. Similar appliances are found in connection with the wells, but the water is raised in buckets by a horse whim and not by steam power. The wells vary greatly in depth according to the formation, the deepest being 400 feet, and the shallowest about 70 feet.

Facilities for watering stock.

The latest figures which have come to hand respecting the flocks and herds of the principal countries refer to various years from 1882 to 1886, and are given below. The important part which

The World's flocks

these colonies are destined to play in the wool markets of the world will be better understood when the character of the wool produced in Australia is made an item of comparison, as well as the actual number of sheep depastured.

	Cattle.	Horses.	Sheep.	Swine.
Europe	97,868,521	32,969,700	179,421,253	45,721,009
Asia	45,197,865	3,238,747	30,666,628	164,000
Africa	3,783,967	793,689	24,066,226	485,300
America, North	53,803,927	14,424,443	47,121,265	45,574,677
America, South	27,487,986	5,775,298	99,928,607	1,076,500
Australasia	8,906,970	1,439,484	96,462,038	1,114,171
Oceania	3,000	1,000	3,000	20,000
Total	237,006,196	58,642,361	477,669,017	94,155,657

NOXIOUS ANIMALS.

It has already been pointed out that one cause of the rapid increase of stock of all kinds in the Colony has been the absence of any large species of carnivora. The native dog or dingo is the largest of the indigenous carnivora; but in New South Wales animals which consume the grass required by the flocks and herds of settlers are equally deemed noxious with those that attack the stock itself. The chief pests of the pastoralists are native dogs and marsupials, hares and rabbits, which latter have been acclimatized, and are now the greatest enemies the Colony has to face. The number of rabbits is beyond computation, although a faint notion of the extent of the evil may be gathered from the fact that over 100,000,000 acres are more or less infested, and that 25,280,000 rabbits were destroyed during 1887, and their skins paid for by the Government, in spite of which the numbers of the pest increased considerably during the year. Hares are not so plentiful, and are said to number not more than 450,000. There are supposed to be about 1,880,000 kangaroos still in the Colony, and 2,750,000 wallabies, the numbers of both classes of marsupials having greatly diminished of late years, a circumstance

No large Carnivora.

Marsupials.

probably as much due to the value of their skins, as to the subsidy paid by the State, and by stock-owners, for their destruction. There are said to be 33,000 dingoes infesting various parts of the Colony; but this estimate, as well as the others just given, must be taken as the merest approximation.

Extirpation of noxious animals.

During 1887, the subsidy and expenses paid on account of rabbit destruction by the State was £283,602, and the sum raised by assessment from owners was £121,496, making a total of £405,098. For the destruction of other noxious animals, the amount of assessment paid by stock-owners during 1887 was £32,652, and the expenditure £37,355, the difference between these sums being paid by the general government.

Rewards paid.

The reward paid for scalps of noxious animals differs greatly, according to the locality, and is determined by the various Boards. The prices paid were as follows:—For kangaroos, from 2d. to 1s. 6d.; wallaroo, 4d. to 9d.; wallaby, from 1d. to 1s.; paddymellon, from 2d. to 1s. 6d.; hares, from 2d. to 1s. 6d.; kangaroo rats, 2d. to 6d.; native dogs, from 10s. to 80s.; pups, 2s. 6d. to 10s.; opossum, 2d. to 4d.; wombats, 2s. 6d.; wild pigs, 1s. to 2s.; bilbees, 5s.; eagle hawks, 3s. 6d. to 7s. 6d.; emus, 6d. to 2s.; and rabbits, 1d. to 2s.; average cost of destruction, 4d.

PART XII.

Food Supply.

THE soil of New South Wales is capable of producing, and produces most of the things necessary for the sustenance of human life, though the production of some of these necessaries has been almost entirely neglected, while others are obtained in quantities insufficient for the wants of the community. Considering the comparatively high rate of wages which prevails, food of all kinds is fairly cheap; and articles of diet, which in other countries are almost within the category of luxuries, are in New South Wales largely consumed even by the poorest classes.

Principal articles of diet.

The amount of the principal articles of diet annually required by each member of the community is estimated to be as follows:—

Flour			296 lb.
Rice			12 ,,
Meat	Beef	170 lb.	278 ,,
	Mutton	90 ,,	
	Pork	18 ,,	
Potatoes			220 ,,
Sugar			95 ,,
Butter			16 ,,
Cheese			6 ,,
Tea			121 oz.
Coffee			11 ,,

For the year 1888 the total demand of the Colony for the above classes of food will be approximately :—

Flour	140,000 tons.
Rice	5,700 ,,
Beef	80,500 ,,
Mutton	42,500 ,,
Pork and bacon	8,500 ,,
Potatoes	104,000 ,,
Sugar	45,000 ,,
Butter	7,200 ,,
Cheese	2,600 ,,
Tea	8,000,000 lb.
Coffee	729,000 ,,

Deficiency of wheat.

The production of wheat in the Colony is not yet equal to the demands of the population. In 1887 the deficiency of home production was about 1,300,000 bushels, equal to 26,000 tons of flour, or 19 per cent. of the whole requirements; unfortunately, however. a large quantity of grain was destroyed by rain, so that the actual deficiency was much greater. The season of 1886–7 was, however, exceptionally good, and the production considerably above the average. For 1888, the estimated deficiency amounts to 2,600,000 bushels of wheat, equivalent to about 52,000 tons of flour, or nearly 36 per cent. of the whole requirements for consumption.

Rice.

Rice is not grown in the Colony, and the quantity required is imported either directly or indirectly from China and India. The land adapted for the growth of rice in New South Wales is not very extensive in area, and is probably put to better use.

Meat supply.

In the matter of meat supply the Colony is almost independent of external assistance. The consumption of fresh meat of all kinds is extremely great, and, though possibly less than in the neighbouring colony of Queensland, it exceeds per head that of any other country. The requirements of the Colony for food alone amounted in 1887 to 249,289 head of cattle, 1,899,230 head of sheep; and, though the supply of cattle sufficient to meet the demand was beyond the resources of the Colony, the number of sheep available for market very largely exceeded even the number given above, and were it not for the preference of beef to mutton, no stock need have been imported for slaughtering. During 1887, there were imported 35,685 head of cattle more than were exported, and the total number of beasts slaughtered for food during 1887, was:—

Bullocks	179,757
Cows	56,243
Calves	13,289
Total	249,289

Deducting from this number the cattle imported, it would appear that 214,144 beasts belonging to the flocks of the Colony were killed for food in 1887, a quantity which could not be obtained for market in any but an excellent season. In regard to sheep the circumstances are entirely different. During 1887, the number slaughtered for food was 1,840,241 sheep and 58,989 lambs, in all 1,899,230. The resources of the Colony are so great, and the season of 1887 was so favourable, that, after allowing for the number just given, and for 354,191 sheep sent to the neighbouring colonies in excess of the importations, there would have been available, if required, at least 2,500,000 sheep fit for slaughter, a number larger than actually required for food or export during the year.

The consumption of sugar in the Colony is enormous, averaging about 95 lb. per head during each year. The fields of the Colony produced during 1887 about 22,500 tons, or 20,500 tons short of the local demand. This large quantity was imported principally from Queensland; but the Fiji Islands and Hongkong together, contributed 5,800 tons. As pointed out in the previous pages relating to agriculture, a large part of the Colony is well adapted to the growth of sugar-cane; but the low price which sugar has brought for several years has not made it sufficiently profitable, and its cultivation has been to some extent neglected.

The amount of potatoes imported during 1887 was 54,140 tons, while the quantity available from the fields of the Colony was only 45,803 tons. The imports amount, therefore, to 54 per cent. of the total consumption, a result due not to the inability of the farmers to grow this crop, but to the low prices prevailing for some years in the local markets, which have discouraged the further extension of the cultivation of the potato.

The quantity of the beverages, tea and coffee, consumed is remarkably large, while the consumption of wine, beer, and spirits, which are in this Colony mere luxuries, is perhaps more considerable than would be expected amongst a people so largely addicted to tea drinking. The quantities consumed annually per head average as follows:—

Tea	7 lb. 9 oz.
Coffee	11 ,,
Wine	0·72 gallons.
Beer	12·85 ,,
Spirits	1·20 ,,

Tea and coffee.

Tea is not grown in the Colony, and though the soil and climate of a part of New South Wales are adapted to its cultivation, no systematic attempt has been made to grow this plant. The coffee berry, especially the Liberian variety, thrives in the north coast district, but it has not yet been cultivated for commercial purposes.

The average quantity of fermented and spirituous liquors consumed per head is given above, the total amount for 1887 was—

	Gallons.	
Wine (Australian)	584,179	
,, (Imported)	161,033	745,212
Beer (Colonial)	9,720,000	
,, (Imported)	2,126,314	11,846,314
Spirits (Colonial)	15,762	
,, (Imported)	1,121,101	1,136,863

The larger part of the wine used in the Colony is the produce of Australia, but the quantity consumed is by no means so great as might be expected in a wine-growing country, and is not quite half that which is drunk in Victoria. The beer consumed is mostly of colonial manufacture, and though apparently considerable, is much less in quantity than in most European countries where beer is a staple beverage, or even in Victoria.

Consumption of intoxicants.

As pointed out in a part of this volume relating to crime, the consumption of intoxicants in this Colony is less than in most of the other colonies of Australia, and in this respect New South Wales also compares favourably with Great Britain. The average quantity of intoxicating liquors consumed in these colonies and in the United Kingdom during 1885 and 1886 was approximately per head :—

Country.	Spirits.	Beer.	Wine.	Total equivalent in proof alcohol.
Australasian Colonies—	Gallons.	Gallons.	Gallons.	Gallons.
New South Wales	1·20	12·85	0·72	3·23
Victoria	1·09	16·29	1·24	3·80
Queensland	1·81	10·16	0·62	3·39
South Australia	0·80	14·37	1·59	3·32
New Zealand	0·87	8·61	0·26	2·18
Tasmania	0·70	10·00	0·14	2·17
United Kingdom	0·97	26·85	0·38	4·01
England	0·83	32·00		
Scotland	1·93	12·00		
Ireland	1·00	16·00		

Butter and cheese.

The consumption of butter and cheese varies greatly, being directly affected by the character of the season which prevails. There was a large import of both articles during 1887, though the season in this Colony was most bounteous. The quantity of butter imported was 9,237 cwt., and the amount of home produce 143,805 cwt., making a total of 153,042 cwt. New Zealand supplied 5,317 cwt., Victoria 2,009 cwt., and South Australia 1,412 cwt. of the butter imported. Cheese is not so largely consumed as might be expected from the pastoral occupations of the people of the Colony and the largeness of the flocks. The amount of cheese made in the Colony during 1887 was about 51,603 cwt., while the quantity imported reached 2,840 cwt. New Zealand and South Australia supply the larger part of the cheese imported into New South Wales, the former country sending 1,113 cwt., and the latter 468 cwt. during 1887.

Quality of food indicative of prosperity.

Judged by the standard of food consumed, the population of New South Wales, as well as of all the other colonies of Australasia, must appear remarkably prosperous. Compared with those of other countries, this will most clearly appear from the following table, the particulars given in which, with the exception of those referring to this Colony, have been taken from Mulhall's History of Prices.

Consumption of foods.

Consumption of Foods.

Articles of Consumption.	New South Wales.	Great Britain.	France.	Germany.	United States.
	lb.	lb.	lb.	lb.	lb.
Grain	304	330	455	166	305
Meat	278	105	74	69	120
Sugar	95	72	21	21	23
Salt	36	40	30	25	39
Butter	16	26	7	12	18
Potatoes	221	315	550	1,060	150
	oz.	oz.	oz.	oz.	oz.
Tea	121	73	1	1	21
Coffee	11	15	52	83	115

Thermo-dynamic of foods.

Taking only the main articles of the foregoing list, grain, meat, sugar, butter, and potatoes, and reducing them to a common basis of comparison, it will be found that the amount of thermo-dynamic power, capable of being generated by the food consumed is largely in favour of this Colony. For purpose of comparison the figures of Dr. Edward Smith, F.R.S., in his well-known work on Foods, have been used, and the heat developed has been reduced to the equivalent weight lifted 1 foot in height.

Thermo-dynamic effect of Foods per day.

	Tons lifted 1 foot high.
New South Wales	2,952
Great Britain	2,695
France	1,947
Germany	2,797
United States	1,931

The substances included in this table are largely supplemented both in America and Europe by other foods, but not more largely than in these colonies, and in the table just given will probably be found a just view of the comparative quantity and food value of the articles of consumption in each of the countries mentioned. The comparison will appear much more largely in favour of Australia when the average amount of work which each individual in the community is called upon to perform, is made an element in the comparison. In New South Wales, and indeed in all Australia, the proportion of women and children engaged in laborious occupations is far less than in Europe and America, and the hours of labour of all persons are also less, so that the amount of food-energy required is therefore less also.

Food consumed in excess of requirements.

In Mulhall's Dictionary of Statistics, under the heading of "Diet," is given a measure of the aggregate amount of work performed by persons doing physical and mental labour, and it would appear that the food of an average man, when burnt in the body, should be equal to at least 3,300 foot tons of work daily, while for a woman 2,200, and for a child 1,100 foot tons. For this Colony the average of all persons would be about 2,125 foot tons, whereas, from the table just given, the amount of work which the daily food consumed by each individual in the Colony from the principal foods consumed is equivalent to not less than 2,952 foot tons. The quantity of food consumed in New South Wales would therefore appear to be far in excess of the actual requirements of the population, and though the excess may be looked upon as waste, it is none the less evidence of the wealth of the people whose circumstances permit them to indulge in it.

Foods imported.

It has already been pointed out in various parts of this work that New South Wales is adapted by soil and climate for the production of all the principal things which are required for the alimentation of mankind. The following table has been prepared to show what descriptions of food are imported which might be grown or manufactured in the Colony, the countries from which they are obtained, and the parts of New South Wales where they could be produced. Whether they could be raised commercially is a different question, and one which it is not proposed to discuss in this chapter.

Adaptability of New South Wales for Food Production.

Article of Consumption.	Produce of	Part of the Colony where produce could be raised.
Arrowroot	Tropical and sub-tropical climates generally.	Valleys of the coastal rivers north of the Hunter.
Cocoa	Central and South America.	In well-sheltered spots, valleys of the Richmond, Brunswick, and Tweed Rivers.
Coffee	Ceylon, Arabia, West Coast of Africa, Mexico, and Brazil.	Valleys of the northern rivers and rich brush lands.
Currants...	Asia Minor, Syria, Greece.	Wherever grapes are successfully cultivated in the Colony, and generally throughout the coastal region and the valleys of the Murray and Murrumbidgee Rivers.
Raisins.....	Asia Minor, Syria, Greece.	
Hops........	Europe, North America, Victoria, Tasmania.	In the uplands of the Monaro, Yass, and Tumut districts, the south coast, and New England.
Mustard ...	Tropical and sub-tropical climates generally.	Valleys of the coastal rivers north of the Hunter.
Olives	South of Europe and North Africa.	In almost every part of the Colony, except the cold uplands of the central division.
Rice...... ...	Asia, Madagascar, South of Europe, Southern States of America, &c.	In marshy lands, lower valleys of the coastal rivers.
Spices	Ceylon, East Indies, Southern Asia.	In selected spots, valleys of the northern coastal rivers.
Tea	Southern and Eastern Asia.	Valleys of the northern rivers.
Vanilla	Mexico, Brazil, Mauritius.	In well-sheltered spots, valleys of the northern rivers.

PART XIII.

Population and Vital Statistics.

N.S.W. the most populous colony

Arrivals and departures by sea.

THE population of New South Wales at the middle of the year 1887 was probably more numerous than any other Colony of the Australasian group. The first position in regard to population was assumed by Victoria in 1854, when that Colony contained within her borders a larger number of persons than New South Wales, which then included the large territory of Queensland. Year by year the gap between the Mother Colony and her vigorous offspring widened, until in 1873 the population of New South Wales was about 236,000 or nearly 43 per cent. less than that of Victoria. Since then the difference has gradually lessened, until, during 1887, it entirely disappeared. Estimating by the excess of births over deaths, and the excess of arrivals over departures by sea, the population of the Australasian Colonies would appear to have reached a total of 3,624,117 at the end of the year 1887. But such a means of estimating population is admittedly defective. In New South Wales the population estimated in this manner was found at the census of 1881 to be 29,952 in excess of the actual number; while in Victoria the excess amounted to 67,437. Even in New Zealand, an insular Colony, where all arrivals and departures are by sea, the population at the census of 1886 was found to be less than the number as estimated from year to year by 7,355. This excess consists, for the most part, of unrecorded departures by sea. Allowing for the departure of persons whose names were not returned to the Customs authorities, the estimated population of New South Wales

Population of Australasia.

at the end of 1887 was 1,042,919. The population of the other Australasian Colonies has been returned as follows :—

Victoria	1,036,110
New Zealand	603,361*
Queensland	366,940
South Australia	312,421
Tasmania	142,478
Western Australia	42,488

* Exclusive of Maoris, to the number of 41,969.

This gives a total of 3,546,717 souls for the whole group of colonies. In the case of Victoria also, allowance has been made for unrecorded departures; and had this system been adopted throughout, the grand total would have been about 3,541,445, an estimate which is perhaps more in accordance with the actual state of affairs. The estimated population of the Colony at the close of each year, from 1861 to 1887, will be found hereunder.

Estimated population of the Colony.

Population of New South Wales.

Year.	Males.	Females.	Total.
1861	201,574	156,404	357,978
1862	204,199	162,522	366,721
1863	207,560	170,152	377,712
1864	213,365	177,499	390,864
1865	223,254	185,893	409,147
1866	235,116	193,697	428,813
1867	243,131	201,578	444,709
1868	254,003	209,185	463,188
1869	263,899	217,549	481,448
1870	272,543	226,116	498,659
1871	282,846	234,912	517,758
1872	292,015	243,204	535,219
1873	301,399	252,434	553,833
1874	312,843	262,100	574,943
1875	323,080	271,217	594,297
1876	333,515	280,666	614,181
1877	350,329	293,378	643,707
1878	365,625	306,263	671,888
1879	386,926	322,533	709,459
1880	405,277	336,616	741,893
1881	426,944	351,746	778,690
1882	443,314	367,519	810,833
1883	470,009	387,735	857,744
1884	495,571	408,377	903,948
1885	527,533	430,381	957,914
1886	551,343	450,623	1,001,966
1887	574,012	468,907	1,042,919

Change in relative population of N.S.W. and Victoria.

Three causes have combined to bring about the satisfactory change which has reversed the relative positions of Victoria and New South Wales in regard to population—the natural increase by births over deaths; the selection of this Colony as a place of settlement by a large number of unassisted immigrants; and the assistance given by the Government to persons in the United Kingdom and elsewhere to make New South Wales their home.

Natural increase.

Regarding the first of these causes, it may be mentioned that, owing to its satisfactory birth-rate, the Colony now receives yearly an addition to its population of 5,000 more than its southern neighbour.

The increase of population from the excess of births and immigration over deaths and departures has been fairly regular. In 1879, the year of the Sydney International Exhibition, there was a very marked increase in the excess of arrivals over departures; and though, as would naturally be expected, the subsequent year showed a falling off, the impetus given to immigration to the Colony by the Exhibition is still felt.

Largest increase in 1885.

The largest increase of population in any one year occurred in 1885, when, owing to the depression prevailing in some of the neighbouring colonies, large numbers of adult males flocked to New South Wales, in search of a livelihood they could scarcely obtain elsewhere. The result of this influx was felt during the following years in the congestion of the local labour market. Numbers of persons were unable to find employment, and their circumstances were considerably aggravated by several unfortunate seasons which the Colony has since experienced.

Net increase.

The following table gives the net increase of male and female population during each year since 1871, after allowing for the number of persons whose departure from the Colony was not formally recorded.

Increase of Population.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1871	10,303	8,796	19,099	1880	18,351	14,083	32,434
1872	9,169	8,292	17,461	1881	21,667	15,130	36,797
1873	9,384	9,230	18,614	1882	16,370	15,773	32,143
1874	11,444	9,666	21,110	1883	26,695	20,216	46,911
1875	10,237	9,117	19,354	1884	25,562	20,642	46,204
1876	10,435	9,449	19,884	1885	31,962	22,004	53,966
1877	16,814	12,712	29,526	1886	23,810	20,242	44,052
1878	15,296	12,885	28,181	1887	22,669	18,284	40,953
1879	21,301	16,270	37,571				

Marked advantages of N.S.W to settlers.

As tested by the voluntary influx of population, the advantages which New South Wales has for many years offered to the settler are most marked, and no test could be more practical. As long as the balance of attraction remained with the other colonies, so long did the tide of immigration set to their shores; but for many years past New South Wales has offered a more substantial reward to the settler than any of its neighbours, and the result is seen in the increased numbers who have come hither.

Voluntary influx a test of prosperity.

Taking the ten years 1878 to 1887 inclusive, the total excess of arrivals over departures in all the Australasian colonies amounted to 606,433; of this number not less than 259,031, or 42·71 per cent. found a home in New South Wales. Only 127,292, or 20·99 per cent. went to Victoria; 127,757 (21·07 per cent.) to Queensland; 67,476 (11·13 per cent.) to New Zealand; 12,399 (2·04 per cent.) to Tasmania; 8,421 (1·39 per cent.) to Western Australia; and 4,057 (0·67 per cent.) to South Australia. No more eloquent tribute could be paid to the resources of New South Wales than is conveyed by the bare statement of these figures.

Estimates of population misleading.

As already pointed out, the apparent excess of arrivals over departures does not represent the actual increase in population from abroad, since numerous departures are not recorded. The figures given above for the period 1878–87 are, to this extent, misleading, as they represent an increase in population in excess of what actually took place. Fairly exact figures are, however, obtainable for the ten years 1871-80; and the relative attraction to the immigrant of the leading colonies on the mainland of Australia will be seen from the table given below, showing the increase of population by excess of immigration to New South Wales, Victoria, Queensland, and South Australia, from 1871 to 1880:—

Excess of Immigration.

Colony.	Excess of arrivals over departures.	Excess of departures over arrivals.	Percentage of total arrivals. Increase.	Percentage of total arrivals. Decrease.
New South Wales	100,016	....	51·59	....
Victoria	....	14,686	....	7·57
Queensland	66,584	....	34·34	....
South Australia	41,953	....	21·64	....

Excess of arrivals in Australia as a whole.............. 193,867.

Excess of Emigration in Victoria.

This table shows that the population of this Colony was enriched by arrivals to the number of 100,016 persons, Queensland by 66,584, and South Australia by 41,953, while Victoria lost 14,686 persons, by excess of departures alone.

Since 1860, the year following the separation of Queensland, the arrivals in New South Wales have in every year exceeded the departures. The greatest apparent excess during any one year was in 1885, when the number of arrivals was greater than the departures by 39,683. From the date of the separation of Queensland to the close of the year 1887, the Colony has benefited by arrivals to the extent of about 386,913. The total number of persons arriving here during the period just mentioned was 986,736, and of this number 78,457 were State assisted.

Assisted Immigration.

Assisted immigration dates from 1832, and continued to be the settled policy of the country, with slight interruptions, until its cessation during the past year. The number of assisted immigrants arriving in New South Wales from 1860 to the close of 1887 will be found below.

Assisted Immigrants.

Year.	Adults.			Children under 12 Years.			Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
1860	1,351	1,235	2,586	245	258	503	3,089
1861	794	595	1,389	101	99	200	1,589
1862	1,172	1,047	2,219	214	198	412	2,631
1863	1,966	1,872	3,838	391	404	795	4,633
1864	1,701	1,672	3,373	289	315	604	3,977
1865	1,073	1,211	2,287	213	217	430	2,717
1866	501	543	1,044	92	68	160	1,204
1867	385	435	820	66	58	124	944
1868	183	215	398	41	31	72	470
1869	......	......	47	......	......	......	47
1870	......	......	......	......	......	......	......
1871	28	299	327	15	15	30	357
1872	25	271	296	16	14	30	326
1873	13	119	132	3	5	8	140
1874	427	411	838	109	133	242	1,080
1875	395	324	719	135	119	254	973
1876	642	429	1,071	208	184	392	1,463
1877	2,892	1,627	4,519	743	756	1,499	6,018
1878	2,091	1,754	3,845	699	646	1,345	5,190
1879	1,906	2,141	4,047	840	844	1,684	5,731
1880	1,150	1,195	2,345	414	375	789	3,134
1881	929	1,029	1,958	327	292	619	2,577
1882	1,209	991	2,200	509	524	1,033	3,233
1883	3,370	2,718	6,088	1,154	1,127	2,281	8,369
1884	2,785	2,606	5,391	1,095	1,082	2,177	7,568
1885	1,871	2,211	4,082	736	736	1,472	5,554
1886	1,044	1,905	2,949	572	560	1,132	4,081
1887	131	687	818	286	258	544	1,362
Total ...	30,034	29,545	59,626	9,513	9,318	18,831	78,457

Birthplaces of immigrants

The birthplaces of immigrants cannot in all cases be accurately determined, but it is quite clear, from the different census returns, that the great bulk have come from the United Kingdom, as will presently appear. A record, however, has been kept of the native countries of immigrants at the public expense, and of the 78,457 persons enumerated in the foregoing table, 76,767 were British born—36,727 being from England and Wales; 31,761 from Ireland; and 8,279 from Scotland; and the remainder, 1,690, from other countries.

CHINESE POPULATION.

Chinese undesirable as colonists.

The uniformity with which the different colonies have passed laws restricting the immigration of Chinese, and prohibiting their landing, except upon payment of a heavy poll-tax, may be taken as some evidence of the undesirability of the race as colonists. At the census of 1861 there were in the Colony 12,988 Chinese; in 1871 the number had fallen to 7,220; but in 1881 it had increased to 10,205, while the estimated number in 1887 was over 16,000. For many years New South Wales offered little inducement to the Chinese as a place of settlement, the superior attractiveness of Victoria and other colonies, as gold producers, claiming their attention. At the rush to Lambing Flat in 1860, however, large numbers of Chinese came across the border and established themselves in this Colony, their strength being constantly recruited by fresh arrivals from China; but these Chinese did not remain in the Colony, for at the census of 1871 there were 5,768 less than ten years previously.

Immigration and Emigration of Chinese.

The numbers of Chinese arriving at and departing from New South Wales since 1871 will be found in the following table:—

Year.	Arrivals.	Departures.	Year.	Arrivals.	Departures.
1871	426	441	1880	2,942	876
1872	229	597	1881	4,465	929
1873	406	400	1882	1,007	884
1874	863	933	1883	1,936	1,402
1875	625	1,209	1884	2,191	1,038
1876	696	940	1885	2,929	1,726
1877	884	490	1886	3,092	1,883
1878	2,485	1,560	1887	4,436	2,773
1879	1,979	557	1888*	1,847	1,110

* Six months only.

Influx of Chinese to New South Wales.

It will be seen that 1878 and the following years are marked by a large increase in the arrivals from China. The influx appeared in 1881 sufficiently formidable to demand the interference of the Legislature. Accordingly the Influx of Chinese Prevention Act was passed, with the result that the subsequent year was marked by a decrease in the arrivals to the extent of 3,458, since which time there has been a steady increase. It would seem, from a comparison of the amount of poll-tax collected with the recorded arrivals, that a very considerable proportion of the Chinese immigrants were already British subjects, or had availed themselves of the privilege granted by the Act of being absent from the Colony for a period of nine months without paying a second tax. In fact this is so to a large extent, for from the 6th December, 1881, the date of the Act just mentioned, to the 28th April, 1888, 3,178 certificates of exemption were issued in this Colony to Chinese, and of this number 1,703 have been received from returned Chinese. Still, the large excess of Chinese not paying the tax would favour the supposition that some evasion is practised.

Evasion of poll-tax

Year.	Chinese arriving.	Chinese paying Poll-tax.	Chinese not paying Poll-tax.
1882	1,007	852	155
1883	1,936	1,220	716
1884	2,191	1,074	1,117
1885	2,929	1,060	1,869
1886	3,092	1,284	1,808
1887	4,436	1,798	2,638

The emigration of Chinese from New South Wales is large compared with the arrivals. This is especially marked of late years, the exodus during 1887 having been larger than in any previous year.

Chinese immigration in Australia increasing.

There has, however, very clearly been an increasing desire during the last few years on the part of the Chinese to emigrate to Australia. This has of late brought about considerable discussion, which culminated in a Conference of delegates from all the colonies being held in Sydney. As a result, the Conference prepared a draft bill to be submitted to the Parliaments of the different colonies. The bill provides that more stringent regulations should be enforced to check the influx of Chinese to these shores; and although the landing of Chinese is not to be prohibited, such a limit will be placed on the numbers privileged to land that the immigration of Chinese promises to be considerably reduced.

Recent legislation against influx.

Before the Conference met, progress had been made in the New South Wales legislature with a bill which was proceeded with after the Conference adjourned and became law on the 11th July, 1888. By this measure vessels are prohibited from carrying to the Colony more than one Chinese passenger to every 300 tons; Chinese landing are to pay a poll-tax of £100, and are not to engage in mining, nor are they permitted to become naturalized. The penalty for breaches of the Act is £500. The Act will probably operate to the entire exclusion of Chinese in the near future.

Chinese in the Colonies in 1888

It is estimated that about the middle of 1888 there were 51,330 Chinese in the Australasian colonies, exclusive of Fiji. This number was distributed as follows:—New South Wales, 16,828; Victoria, 12,564; Queensland, 8,950; South Australia (chiefly in the Northern Territory), 6,900; New Zealand, 4,688; Tasmania, 1,000; and Western Australia, 400. When the census of 1881 was taken the total number in the colonies was set down as 43,706.

Chinese in the Australasian Colonies, 1881.

Colony.	Males.	Females.	Total.
Victoria	11,869	259	12,128
Queensland	11,206	23	11,229
New South Wales	10,141	64	10,205
New Zealand	4,995	9	5,004
South Australia	4,146	5	4,151
Tasmania	842	2	844
Western Australia	145	...	145
Total	43,344	362	43,706

CENTRALIZATION OF POPULATION.

Tendency of immigrants to live in cities.

There is a tendency operating in all new countries for immigrants to locate themselves in and near the large cities. This Colony has been no exception to the rule, and it will be seen from subsequent tables that the percentage of British and Foreign born in the metropolis is higher than for the whole Colony, and the native-born correspondingly lower.

Proportion of native-born increasing.

As far back as 1861, when the native-born population amounted to only 45·68 per cent. of the whole Colony, the number living in Sydney and its suburbs formed only 42·92 per cent. of the total, while British born colonists, amounting to 46·18 per cent. of the population, constituted 51·01 per cent. of the metropolitan population. No great difference is observable between the proportion of persons attracted to New South Wales from other colonies who remained in Sydney during late years, and those who made the country districts their home. What difference there is favours the supposition that Sydney has proved more attractive. The non-British population have, as a rule, preferred the country districts to Sydney; but of late years there has been a tendency on the part of certain foreign elements to gravitate towards Sydney; this is especially noticeable amongst the Chinese.

Birthplaces of the people.

The following table shows the proportion per cent. of each element of the population at the three periods 1861, 1871, and 1881, to the whole city population, and also the proportion which each bore to the whole community:—

Birthplaces of the People.

Year.	Native Born of New South Wales.		Natives of other Australian Colonies		English, Irish, and Scotch.		Foreign.	
	Per cent. of population, metropolitan.	Per cent. of total population.	Per cent. of population, metropolitan.	Per cent. of total population.	Per cent. of population, metropolitan.	Per cent. of total population.	Per cent. of metropolitan population.	Per cent. of total population.
1861	42·92	45·68	1·81	1·34	51·01	46·18	3·94	6·80
1871	54·22	58·38	3·07	2·67	39·33	34·56	3·33	4·20
1881	56·87	61·96	6·17	6·94	33·36	27·74	3·60	4·14

Racial composition of people.

The racial composition of the people at the last three census —of 1861, 1871, and 1881—will be seen from the following table:—

Racial Composition of Population.

Nationality.	1861.	1871.	1881.
	per cent.	per cent.	per cent.
New South Wales	45·68	58·38	61·96
Other Colonies	1·34	2·67	6·94
Aborigines	...	0·19	0·22
English	23·98	17·33	14·31
Irish	15·62	12·49	9·21
Scotch	5·20	3·98	3·34
Welsh	0·39	0·37	0·41
Other British Subjects	0·99	0·39	0·47
Total, British Subjects	93·20	95·80	95·86
Chinese	3·71	1·43	1·63
German	1·56	1·32	1·00
Other Foreigners	1·53	1·45	1·78
Total, Foreigners	6·80	4·20	4·14

Tendency of population towards cities.

One of the most noticeable problems in the progress of modern civilization is the tendency, everywhere exhibited in the chief countries of the world, of the population to accumulate in great cities. Not only is this apparent in England, France, and other countries where the development of manufactures has brought about an entire change in the employment of the people, and has necessarily caused their aggregation in towns, but it is seen also in the United States, the most favoured country for the agricultural labourer.

Comparison of Colonies with America.

The conditions of progress in these colonies approximate somewhat to those of the United States, and a comparison between the increase of town population there and in New South Wales is not without interest. The great defect in the comparison arises from the fact that in America there exist many large cities; in New South Wales there is practically only one. The population of the United States for three periods, and the proportion of rural to city population, will be seen below.

Population of the United States.

Year.	Population of the United States.	Population of Cities of United States.	Percentage of whole population in Cities.
1860	31,443,321	5,072,256	16·1
1870	38,558,371	8,071,875	20·7
1880	50,155,783	11,318,547	22·5

Causes which lead to increase in cities.

The rapid increase of city population shown above has given rise to considerable speculation, both in Europe and America. It seems an established fact that the movement of population towards the towns in the old countries of the world is a sign of improvement in the circumstances of the ruder population; for, like every other commodity, labour gravitates to the market where it will obtain the highest price. In America, the increase in town population has been derived mainly from abroad; and there seems no reason to suppose that, large as the proportion of urban population has become, it has reached an unhealthy stage.

Urban and rural population.

In this Colony the proportion of town population is even more remarkable than in the United States, as will be seen from the table here given, showing the percentage of population of Sydney and suburbs as compared with New South Wales as a whole.

New South Wales Population.

Year.	Metropolitan.	Country.
	Per cent.	Per cent.
1861	26·70	73·30
1871	26·73	73·27
1881	29·40	70·60
1885	32·84	67·16
1886	33·36	66·64
1887	33·64	66·36

In regard to the neighbouring Colony of Victoria, the figures are :—

Victorian Population.

Year.	Metropolitan.	Country.
	Per cent.	Per cent.
1861	25·89	74·11
1871	28·87	71·13
1881	32·81	67·19
1885	35·42	64·58
1886	37·65	62·35
1887	37·79	62·21

Fewness of Australasian cities.

In the table of urban population of the United States on the preceding page, is included the population of all towns exceeding 8,000 inhabitants; nevertheless, the proportion to the whole is much less than in either New South Wales or Victoria. The case of Melbourne is even more marked than that of Sydney; for during the twenty-six years comprised in the table, the former city increased proportionately more than the latter, as compared with the population of its Colony, though its numerical increase has not been so great.

Population of the City and Suburbs of Sydney and Melbourne.

Year.	Sydney.	Melbourne.
1861	95,596	139,860
1871	136,483	206,780
1881	224,211	282,947
1884	289,201	322,690
1885	314,545	345,380
1886	334,298	371,630
1887	350,866	391,546

Extraordinary progress of Sydney and Melbourne.

The progress of these cities has been extraordinary, and has no parallel amongst the cities of the Old World. Even in America the rise of the great cities has been accompanied by a somewhat corresponding increase in the rural population. In these colonies, perhaps for the first time in the history of the world, is seen the spectacle of magnificent cities growing with wonderful rapidity, and embracing within their limits one-third of the population of the territory on which they depend. The chief cities of the other Australian Colonies present somewhat similar features to Sydney and Melbourne, but with the exception of Adelaide, which contains about two-fifths of the whole population of South Australia, they are not so large in proportion to their rural population as either Sydney or Melbourne.

Population of Australasian cities.

The estimated population of the chief cities of the Australasian Colonies is given below.

City.	Population.	Year.
Sydney	350,866	1887
Melbourne	391,546	1887
Adelaide	112,312	1887
Brisbane	55,475	1887
Auckland	57,048	1886
Hobart	31,251	1887
Perth	10,000	1887

Growth of Sydney.

Sydney stands alone amongst Australian cities for convenience of position and natural advantages for external and internal trade. Nor has the progress it has made in wealth and population been less than expectation warranted. The growth of population within the municipal boundaries of the city forms an interesting feature in the progress of the Colony. In the table given below the population set down for the years previous to 1871 is that ascertained at the date of different census; from 1871 the figures show the estimated population at the close of the year.

Population of Sydney within its Municipal Boundaries.

Year.	Persons.	Male.	Female.	Year.	Persons.	Male.	Female.
1828	10,815	7,408	3,407	1876	87,261	44,440	42,821
1833	16,232	9,813	6,419	1877	91,008	46,832	44,176
1836	19,729	12,111	7,618	1878	94,228	48,809	45,419
1841	29,973	17,169	12,804	1879	98,824	51,748	47,076
1846	38,358	20,810	17,548	1880	102,161	53,910	48,251
1851	44,240	22,296	21,944	1881	106,578	56,793	49,785
1856	53,358	26,396	27,032	1882	110,112	58,828	51,284
1861	56,394	27,285	29,109	1883	115,847	62,603	53,244
1871	77,680	38,631	39,049	1884	121,441	66,152	55,289
1872	79,455	39,668	39,787	1885	122,910	67,380	55,530
1873	81,482	40,774	40,708	1886	124,379	68,607	55,772
1874	83,631	42,123	41,508	1887	125,850	69,418	56,432
1875	85,267	43,191	42,076				

Growth of metropolitan population.

At the census of 1861, the population of the whole metropolis was 95,596; ten years later it had risen to 136,483; while at the census of 1881, the number had reached 224,211; and in 1887 the estimated number of persons in Sydney and its suburbs was, as already stated, 350,866. The progress of the population in the city and suburbs will be found in the following table, which also includes the country districts, and the whole Colony, commencing with the year 1870.

year, 1870–87.

X

Year.	Colony.			City.			Suburbs.			Country.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1870	272,543	226,116	498,659	37,349	38,144	75,493	28,497	30,588	59,085	206,697	157,384	364,081
1871	282,846	234,912	517,758	38,631	39,049	77,680	30,662	32,279	62,941	213,553	163,584	377,137
1872	292,015	243,204	535,219	39,668	39,787	79,455	32,440	33,870	66,310	219,907	169,547	389,454
1873	301,399	252,434	553,833	40,774	40,708	81,482	34,207	35,757	69,964	226,418	175,969	402,387
1874	312,843	262,100	574,943	42,123	41,508	83,631	36,583	37,964	74,547	234,137	182,628	416,765
1875	323,080	271,217	594,297	43,191	42,076	85,267	38,756	40,052	78,808	241,133	189,089	430,222
1876	333,515	280,666	614,181	44,440	42,821	87,261	40,939	42,314	83,253	248,136	195,531	443,667
1877	350,329	293,378	643,707	46,832	44,176	91,008	45,019	46,298	91,317	258,478	202,904	461,382
1878	365,625	306,263	671,888	48,809	45,419	94,228	48,358	50,360	98,718	268,458	210,484	478,942
1879	386,926	322,533	709,459	51,748	47,076	98,824	53,547	45,901	109,448	281,631	219,556	501,187
1880	405,277	336,616	741,893	53,910	48,251	102,161	57,932	60,078	118,010	293,435	228,287	521,722
1881	426,944	351,746	778,690	56,793	49,785	106,578	63,746	64,968	128,714	306,405	236,993	543,398
1882	443,314	367,519	810,833	58,828	51,284	110,112	67,629	70,490	138,119	316,857	245,745	562,602
1883	470,009	387,735	857,744	62,603	53,244	115,847	74,530	78,420	152,950	332,876	256,071	588,947
1884	495,571	408,377	903,948	66,152	55,289	121,441	81,194	86,566	167,760	348,225	266,522	614,747
1885	527,533	430,381	957,914	67,380	55,530	122,910	93,130	98,505	191,635	367,023	276,346	643,369
1886	551,343	450,623	1,001,966	68,607	55,772	124,379	103,268	106,651	209,919	379,468	288,200	667,668
1887	574,012	468,907	1,042,919	69,418	56,432	125,850	112,444	112,572	225,016	392,150	299,903	692,053

The increase of the city population during the seventeen years which closed with 1887 has been 67 per cent., and of the suburbs 280 per cent., while that of the country districts amounted to 90 per cent. The population of the whole Colony has more than doubled itself during this period; the total for 1887 showing an increase of 109 per cent. on the total for 1870.

Area of the metropolis.

The area occupied by the city proper, not including Moore Park, comprises 2,000 acres, and that of the suburbs on the south side of the harbour, 96 square miles, or, nearly 100 square miles, for the whole metropolis. The population at the end of 1887 was, for the city 62·9 persons per acre, and 3·5 per acre for the suburbs. The area of Melbourne and suburbs has been estimated at 256 square miles, and the population at the close of the year 1887 at 391,546. The area taken for Melbourne is an arbitrary one, being that included within a radius of 10 miles of the centre of the city. An area of 256 square miles around Sydney would include Parramatta and district, with the population dwelling therein, which at the close of 1887 was probably not less than 367,000—a number considerably less than the Melbourne metropolitan population.

Suburbs of Sydney.

The population of the suburbs has increased nearly twofold since the census of 1881. The increase has been general, varying from 81·57 per cent. in the north-western districts of Balmain, Glebe, and Leichhardt, to 111·65 per cent. in the west central suburbs, as will appear from the following statement:—

Suburbs.	Population, 1881.	Population, June, 1888.	Increase per cent.
North-western	27,429	49,803	81·57
West central	15,991	33,845	111·65
East central	23,638	44,081	86·48
Eastern	20,220	37,520	85·56
Western and Southern	22,436	46,641	107·88
North Shore	9,887	20,070	102·99

The suburbs of Sydney comprise several distinct municipalities. The population of those in existence at the date of the last census, and at the middle of the year 1888, will be found below.

Population of the various Municipalities.

Municipality.	Population at Census of 1881.	Estimated population June, 1888.
dria	3,449	10,306
l	4,087	9,204
ı	15,063	22,219
	......	965
West (Rockdale)	858	3,084
d	2,472	5,442
down	3,522	5,496
ury	1,175	2,378
d	......	1,170
ton	2,026	3,645
ock	888	1,322
ebe	10,500	14,009
's Hill	2,282	2,002
ille	......	772
h	......	1,601
ardt	1,866	13,575
aldtown	1,870	7,701
	1,327	2,870
kville	3,501	11,528
wn	8,327	16,215
Willoughby	1,411	2,392
gton	9,608	16,569
am	3,413	9,098
ick	2,079	3,859
n	10,868	20,136
	1,673	2,302
onards East	2,320	5,451
onards	2,647	6,303
ters	2,272	4,433
field	......	1,042
ia	2,182	3,054
loo	5,762	9,029
ley	2,365	8,228
hra	6,168	8,864

Towns over 2,500 inhabitants.

The towns of more than 2,500 inhabitants at the census of 1881 were only fifteen in number, as follows :—

Population of Chief Towns at Census of 1881.

Towns of New South Wales.	Population at Census of 1881.
Newcastle	8,986
Parramatta	8,432
Maitland	7,304
Bathurst	7,221
Goulburn	5,881
Albury	4,040
Wagga Wagga	3,975
Grafton	3,891
Tamworth	3,612
Temora	3,254
Dubbo	3,199
Orange	2,701
Deniliquin	2,506
Vegetable Creek	2,670
Lambton	2,512

Besides the towns named in the above list, there were forty-four whose population was between 1,000 and 2,500, and 216 towns and villages exceeding 100, and less than 1,000 in population.

Population densest along seaboard.

The great bulk of the population dwells along the seaboard. Outside the metropolis the most thickly peopled districts are the fertile valleys of the rivers. Amongst these, in point of population, the Hunter River valley, with large agricultural and mining industries, stands first. The Illawarra district, rich in coal and pasture, comes next ; then the maize and sugar-growing country of the Clarence and the Richmond. The settlement of population originally followed the main roads of the Colony, and is now drawn to the great trunk lines of railway, which have almost superseded them.

NATURALIZATION.

There were 119 foreigners naturalized in this Colony during the year 1887. Their ages varied from 18 to 64, and their length of residence in New South Wales ranged from five to thirty-four

s. Twenty-two had been resident more than twenty years in Colony. Of European races the Germans have availed themes most largely of the privileges of naturalization, but the ber of certificates issued to Germans amounts to scarcely more half the number granted within the past ten years to Chinese. following table shows the native countries of those colonists obtained certificates of naturalization during each year, from to 1887 :—

Naturalization of Germans.

Naturalization of Foreigners.

tive countries.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	Total.
ce	3	1	1	5	3	4	3	10	8	8	46
	1	3	...	...	...	...	1	...	...	...	5
gal	...	2	2	1	1	1	...	...	...	...	7
erland	1	1	5	1	...	4	4	1	3	1	21
	...	4	3	4	3	4	3	4	5	6	36
any	56	39	43	34	32	46	44	47	45	48	434
ria	2	1	...	4	1	3	8	1	5	3	28
nd	1	4	1	2	...	2	2	1	2	3	18
um	...	1	...	...	...	...	...	...	2	...	3
ark	7	2	13	7	5	12	11	7	18	19	101
ay	1	1	...	8	1	3	6	3	4	5	32
en	6	8	12	7	5	13	8	17	10	13	99
a	3	...	1	2	2	2	3	7	6	3	29
d	...	1	1	...	...	2	4	4	4	3	19
e	2	...	...	1	1	2	1	1	2	3	13
	...	...	...	...	...	1	...	...	...	...	1
ria	...	...	...	...	...	...	1	...	...	...	1
	15	23	18	31	93	301	265	22	5	1	774
kong	...	2	1	...	...	...	...	...	...	..	3
	...	1	...	...	...	...	...	...	...	...	1
g	...	...	...	...	...	...	...	...	...	1	1
ica	...	...	1	...	...	4	2	...	...	1	8
d States	...	1	...	...	...	1	...	2	1	...	5
ern Islands	...	1	...	1	...	...	...	1	4	..	7
ca	...	...	...	...	...	1	...	...	...	...	1
Caledonia	...	...	...	...	...	...	...	...	...	1	1
own	...	...	...	...	...	...	1	...	...	...	1
otal	98	96	102	108	147	406	367	128	124	119	1,695

om this it will be seen that the Chinese have, more than any nation, evinced of late years a desire to become British cts ; and the tendency is even more marked in Victoria, where, of 4,179 persons naturalized during the sixteen years from

Large number of Chinese naturalized.

1871 to 1886, no fewer than 2,953 were born in China, the greatest number naturalized in any one year being 1,178 in 1885. The total number of persons naturalized in New South Wales from 26th July, 1849, to June, 1888, was 5,763.

ABORIGINES.

Aborigines.

This name, signifying "without origin," was given to the earliest known inhabitants of Italy, but is now applied to the original or primitive inhabitants of any country. As the recent history of the native race in these colonies is so entwined with the progress of the British people in Australia, a few words concerning them may not be out of place. The aborigines of Australia form a distinct race, and it may be presumed that the whole population existing on this continent springs from the same stock, although it is remarkable that their languages differ so greatly that tribes within short distances of each other are quite strangers and often antagonistic, and that almost every large community of natives has its own peculiar dialect. It is difficult to form a correct estimate of their numbers, and while there is reason to believe that some generations ago they were very numerous, there is ample evidence of late years that in many places they are decreasing; and they may now be counted by fives where they were formerly counted by hundreds. In Tasmania they have disappeared altogether, the last of the tribe in that colony having died in 1876.

Estimate by Governor Phillip.

It is recorded that Governor Phillip estimated the aboriginal population about the close of the last century at one million; the number between Broken Bay and Botany Bay appearing to have been about 3,000. It is impossible to say how far this estimate was in accordance with fact; for, although at the time it did not probably seem an exaggerated conjecture in the face of so large a number as 3,000 having been found within the small area between the bays above mentioned; yet, considering how small a portion of the territory was then explored by the early settlers, the statement must be accepted according to what it professes to be, namely, an estimate at a time when the data to hand were very limited. At the census of 1881, the aborigines were believed to number 31,700, distributed as follows:—

Aborigines at census of 1881.

Aborigines in the Australian Colonies, 1881.

Colony.	Males.	Females.	Total.
New South Wales	938	705	1,643
Victoria	460	320	780
Queensland	10,719	9,866	20,585
South Australia	3,478	2,868	6,346
Western Australia	1,640	706	2,346
Total	17,235	14,465	31,700

Estimate untrustworthy.

There are various reasons for believing that the above total does not include the entire aboriginal population of the colonies. In New South Wales, for instance, only the "civilized" blacks were enumerated in the returns, and, from reliable information since available, it is certain that the actual number, including those in a wild state, was much higher. The figures for Queensland are in a great measure derived from estimates which are considered by the Registrar-General of that colony to be too low, for in his report on the census he says :—"In the northern parts of the Colony the aborigines are comparatively numerous, and some persons resident in the Cook and Palmer districts have supposed that there may be 70,000 in Queensland. This, however, is a very crude estimate, and may be far wide of the truth." In the case of South Australia, as the aborigines in the Northern Territory were not included in the returns, it seems probable that they are as numerous in that Colony as in Queensland. The census of Western Australia includes only those aboriginals in the employment of the colonists, and as large portions of this, the greatest in area of all the Australasian Colonies, are as yet unexplored, it may be presumed that the number of aborigines enumerated in the census is very far short of the total in the Colony.

The Maoris.

The original inhabitants of New Zealand, or Maoris, as they are called, are quite a different race. They are gifted with a considerable amount of intelligence, quick at imitation, and brave even to rashness; on the other hand they are avaricious, and ofttimes ferocious. According to the census of 1881 they numbered 44,097. Like the Australian aborigines they appear to be decreasing in number, the census of 1886 enumerating only 41,432. The total in 1887 was estimated to be 41,969. It is believed, however, that at the time the colonists first landed their number was fully 120,000.

Aboriginal adults decreasing.

It is stated in the annual report of the Aborigines Protection Board that there were 5,042 aborigines in New South Wales in 1887, as compared with 4,893 in 1886. The increase, however, consists entirely in the number of children, the adults, both male and female, having decreased. There were 2,741 half-castes in the Colony in 1886, and 2,860 in 1887. Compared with the above returns, the number enumerated by the census appears small, and shows that the aboriginals passed over as being in a wild state far out-numbered those within the bounds of civilization.

Crimes and misfortunes of native blacks.

It has been the misfortune of the aborigines of Australia, as it was of the Carribee, the North American Indian, and the Hottentot, to be found in the way of European colonization; and the blacks have not seen the white man take possession of their territory without many an attempt, by deeds of cunning and of blood, to stop the invasion and to avenge the injury. It would be easy to gather from the records of British colonization in Australia many instances of horrible crimes committed by the aborigines. They are, in fact, partakers of the worst passions of human nature. But it must not be forgotten that, amongst the people of British origin who settled upon the land, formerly occupied by the blacks alone, were many whose crimes against the aborigines at least equalled in atrocity any committed by that unfortunate race. Cunning and ferocity were the natural concomitants of such a struggle; and the remembrance of what cunning and ferocity have done tends to make the colonists slow to recognize any characteristics of an opposite kind in the blacks. There is, however, evidence from their songs and their cherished traditions,* that they are by no means destitute of some qualities in which civilized men glory —such as the power of inventing tragic and sarcastic fiction, the thirst for religious mystery, stoical contempt of pain, and reverence for departed friends and ancestors. The manner in which they have displayed these characteristics presents such a strange mixture of wisdom and folly, of elevating and degrading thoughts, of interesting and of repulsive traditions, of pathetic and grotesque observances, that in order to account for the apparent contradictions, recourse must be had to the supposition that this race has descended from an ancient and higher civilization, of which they have retained some memorials.

Oral traditions.

DISTRIBUTION OF SEXES.

The relative proportion of males to females in the whole Colony has undergone little change during the past twenty-five years, as will be seen from the following figures :—

Percentage of Males and Females to whole Population.

Year.	Males.	Females.
1861	56·57	43·43
1871	54·67	45·33
1881	54·71	45·29
1885	55·07	44·93
1886	55·03	44·97
1887	55·04	44·96

The excess of male over female population is chiefly at the ages of from 20 to 50 years, and is caused by the large influx of males in the prime of life, from the neighbouring colonies and the British Islands. New South Wales is especially strong in adult

Excess of male population.

---

[*] *Vide* Kamilaroi and other Australian Languages, by Rev. W. Ridley, M.A.

male population, and the number of men between 20 and 50 years at the last census exceeded even Victoria, though the latter colony had then a gross population of 111,000 in excess of New South Wales. The figures for all the colonies show that there was, at the census of 1881, a population of 619,970 males between the ages named, of whom 175,473 were living in New South Wales.

Male Population of the Australasian Colonies between the Ages of 20 and 50 years.

Colony.	Male population 20 to 50 years.
New South Wales	175,473
Victoria	168,444
New Zealand	120,585
South Australia	65,545
Queensland	62,241
Tasmania	20,941
Western Australia	6,741
Total	619,970

Males at self-supporting ages.

It is customary in England and elsewhere to consider the self-supporting ages as from 20 to 60 years. Comparing the population of the different colonies at these ages, the result at the last census was still distinctly favourable to New South Wales, though the aggregate was less than Victoria.

Male Population at Supporting Ages, 20 to 60 years, in the Australasian Colonies.

Colony.	Male population 20 to 60 years.
New South Wales	200,208
Victoria	210,850
New Zealand	134,993
South Australia	73,778
Queensland	68,590
Tasmania	25,798
Western Australia	8,553

Greater number of males in country districts.

The greater portion of the excess of male population is in the country districts. In the city the disparity is not so great; while in the suburbs there is actually an excess of females over males. Taking the twelve years ended 1887, the percentage of males to females in the whole Colony, and in the city, suburbs, and country will be found below.

Proportion of Males and Females to every 100 persons in New South Wales.

Year ended 31 Dec.	Colony.		City.		Suburbs.		Country Districts.	
	Proportion to 100 persons living.		Proportion to 100 persons living.		Proportion to 100 persons living.		Proportion to 100 persons living.	
	Males.	Females.	Males.	Females	Males.	Females.	Males.	Females.
1876	54·30	45·70	50·93	49·07	49·17	50·83	55·93	44·07
1877	54·42	45·58	51·46	48·54	49·30	50·70	56·02	43·98
1878	54·42	45·58	51·80	48·20	48·99	51·01	56·05	43·95
1879	54·54	45·46	52·36	47·64	48·92	51·08	56·19	43·81
1880	54·63	45·37	52·77	47·23	49·09	50·91	56·24	43·76
1881	54·83	45·17	53·29	46·71	49·52	50·48	56·39	43·61
1882	54·67	45·33	53·43	46·57	48·96	51·04	56·32	43·68
1883	54·80	45·20	54·04	45·96	48·73	51·27	56·52	43·48
1884	54·82	45·18	54·47	45·53	48·40	51·60	56·65	43·35
1885	55·07	44·93	54·82	45·18	48·60	51·40	57·05	42·95
1886	55·03	44·97	55·16	44·84	49·19	50·81	56·83	43·17
1887	55·04	44·96	55·16	44·84	49·97	50·03	56·66	43·34

Ages of the people.

A glance at the statement of ages of persons returned at the census of 1881, given below, will show at what ages the chief strength of the Colony lies. There is a gradual diminution in the number of persons at the different periods of life from infancy to old age—the only irregularity in the gradation being the large number of males between the ages of 20 and 25 years. New South

Wales is almost the only colony which presents this satisfactory view of the ages of its people, approaching so nearly what should theoretically be found in a perfect community.

Ages of People in New South Wales at Census of 1881.

Ages.	Males.	Females.	Ages.	Males.	Females.
Under 5	56,169	54,954	50 to 55	15,649	8,835
5 to 10	49,877	49,141	55 ,, 60	9,086	5,923
10 ,, 15	45,071	43,408	60 ,, 65	8,350	5,528
15 ,, 20	38,169	37,565	65 ,, 70	5,134	3,148
20 ,, 25	40,056	34,481	70 ,, 75	3,461	2,057
25 ,, 30	35,050	25,488	75 ,, 80	1,645	992
30 ,, 35	29,361	21,278	80 and upwards..	1,277	637
35 ,, 40	27,338	19,067	Unspecified	1,788	628
40 ,, 45	24,242	15,293			
45 ,, 50	19,426	11,896		411,149	340,319

Population at different census.

The following are the figures disclosed by the census of 1861, 1871, and 1881:—

Population of New South Wales.

Year.	Males.	Females.	Total.
1861	198,488	152,372	350,860
1871	275,551	228,430	503,981
1881	411,149	340,319	751,468

MARRIAGES.

The number of marriages registered in the Colony has been increasing annually since 1874; the year 1887, however, forms an exception to the rule, and gives a smaller record than either 1885

Marriage rate declining

or 1886. The rate per 1,000 of population has been declining during the last four years, and 1887 presents a lower rate than for many years past.

Marriages in New South Wales.

Year.	Marriages registered.	Per 1,000 of mean population.	Year.	Marriages registered.	Per 1,000 of mean Population.
1871	3,953	7·77	1881	6,284	8·26
1872	3,925	7·45	1882	6,948	8·74
1873	4,384	8·05	1883	7,405	8·87
1874	4,343	7·69	1884	7,482	8·49
1875	4,605	7·87	1885	7,618	8·18
1876	4,630	7·66	1886	7,811	7·97
1877	4,994	7·94	1887	7,590	7·42
1878	5,317	8·08			
1879	5,391	7·80	Mean for 17 years ...		7·99
1880	5,572	7·68			

Marriages in European countries.

Compared with some European countries the proportion of marriages to the whole population in the Colony appears somewhat less than might be anticipated, but it will be found that the circumstances of the countries where marriages are more largely entered into are entirely dissimilar, and the national habits different from our own. The highest European marriage-rate is found in the dominions of two great empires, Germany and Austria. The ratios for Prussia and the rest of Germany, and for Hungary and the other portion of Austria are given separately. Their mean marriage-rates since 1870 have been declining year by year; and reference to the table will show that the average rate for each during 1881–86 was lower than the average for several years prior to 1881.

Marriages in United Kingdom.

The marriage-rate of the United Kingdom is always much the same as that of the Australasian Colonies, in spite of the comparatively few marriages solemnized in Ireland. The information in the following table is taken from the report of the Registrar-General of England.

Marriage-rate per Thousand of Mean Population in certain European countries.

Countries.	Mean of 20 years, 1861–80.	1881.	1882.	1883.	1884.	1885.	1886.	Mean of 6 years, 1881–86.
England and Wales......	8·2	7·6	7·7	7·7	7·5	7·2	7·0	7·4
Scotland	7·1	7·0	7·0	7·0	6·7	6·4	6·2	6·7
Ireland	4·9	4·3	4·3	4·3	4·5	4·3	4·2	4·3
France	7·9	7·5	7·4	7·5	7·6	7·5	7·4	7·5
Spain	7·2	...	...	...	...	...	...	...
Switzerland	7·6	6·8	6·8	6·8	6·8	6·9	6·8	6·8
Italy	7·6	8·1	7·9	8·0	8·2	7·9	7·8	8·0
German Empire	8·7	7·5	7·7	7·7	7·8	7·9	7·9	7·7
Prussia	8·6	7·6	7·8	7·9	8·0	8·2	8·1	7·9
Austria	8·6	8·0	8·2	7·8	7·8	7·6	7·8	7·9
Hungary	10·3	9·9	10·2	10·2	10·1	...	...	10·1
Holland	8·1	7·3	7·2	7·1	7·2	6·9	6·9	7·1
Belgium	7·3	7·1	7·0	6·7	6·7	6·8	6·7	6·8
Denmark	7·7	7·8	7·7	7·7	7·8	7·6	7·1	7·6
Norway	7·2	6·4	6·7	6·6	6·8	6·6	6·6	6·6
Sweden	6·7	6·2	6·4	6·4	6·5	6·6	...	6·4

The means for the series of years prior to 1881 are not for the full period of twenty years for all the countries above mentioned. In the case of Ireland the ratio is the average from 1864 to 1880; Spain, 1861 to 1878; Switzerland, 1868 to 1880; Italy, 1863 to 1880; German Empire, 1872 to 1880; Hungary, 1866 to 1880; and Norway, 1871 to 1880. It must be borne in mind that the above are the ratios of *marriages* to population; to ascertain the ratios of *persons* married it is therefore necessary to double the figures in each case.

Circumstances of Australia induce marriages.

But no one of the European countries referred to above is to any great extent similar to the Australasian Colonies in its social customs, or in the prosperity of the great bulk of its people. The nearness of the marriage-rate of the United Kingdom to that of Australasia is accidental, as the circumstances of the two countries are very dissimilar. In the former case there is a large excess of female population, due to the emigration of males, while in these colonies the preponderance is greatly on the side of the males. Besides this, the social condition of the working-classes, in even the least forward of the Australasian Colonies, is much more advanced than in the British Islands, the probabilities are therefore greatly in favour of a higher marriage-rate in these colonies.

Lowest marriage-rate in Victoria.

The lowest marriage-rate of any of the colonies is found in Victoria, and the highest, taking a series of years, in South Australia. The rates since 1876, which will be found hereunder, show that the average of the whole colonies has been approximately 7·59.

Marriage rate of all colonies.

The colonies whose rates are above the average, are—

South Australia	8·18
New South Wales	8·09
Queensland	8·01
Tasmania	7·65

Those below the average, are—

Western Australia	7·17
New Zealand	7·03
Victoria	6·93

Mean Marriage-rates of the Australasian Colonies.

Year.	New South Wales.	Victoria.	South Australia.	Queensland.	Western Australia.	Tasmania.	New Zealand.
1876	7·66	6·21	8·49	7·57	7·07	7·13	8·25
1877	7·94	6·31	8·66	7·57	6·38	7·79	7·63
1878	8·08	6·20	9·47	6·98	6·50	7·96	8·03
1879	7·80	5·98	8·81	7·49	7·57	7·23	7·60
1880	7·68	6·22	8·69	6·97	7·42	7·38	6·71
1881	8·26	6·79	8·33	7·71	6·60	7·30	6·65
1882	8·74	7·09	8·73	8·56	7·07	8·03	7·07
1883	8·87	7·43	8·49	8·93	6·95	9·01	6·82
1884	8·49	7·73	8·28	8·91	7·11	7·81	6·88
1885	8·18	7·72	7·65	8·92	7·89	7·97	6·74
1886	7·97	7·84	6·31	8·32	7·94	7·27	6·02
1887	7·42	7·62	6·32	8·21	7·70	6·99	5·97
Mean...	8·09	6·93	8·18	8·01	7·17	7·65	7·03

Factors influencing marriages.

As far as these colonies are concerned, the factors influencing the marriage-rate are—first, and chiefly, the general prosperity of the community; secondly, the number of marriageable males, and the occupations of the people. Judged by certain standard tests, which will be hereafter described, the prosperity of the people of New South Wales was perhaps greater than that of any of the other colonies during the period over which the comparison extends; hence the high marriage-rate compared with some of the other colonies.

Large number of single men in New South Wales.

The number of single men (bachelors and widowers) of marriageable age was, numerically, larger in New South Wales than in any of the other colonies, but, proportionately to the whole population, larger only than in Victoria, Tasmania, and South Australia during the year 1881. Under similar conditions it would, therefore, be natural to suppose that, were it not for the greater material prosperity of New South Wales, the marriage-rates of the remaining colonies would have been higher than in this Colony. Such, however, was not the case, for, as mentioned above, the rate for New South Wales is exceeded only by South Australia, over a series of years. This is due chiefly to the smaller number of persons in that colony whose abodes are constantly changing by reason of the exigencies of their occupation, and to a wave of prosperity which has now subsided.

Marriage prospects of women

Taking 1881, the only year available for comparison of the probabilities of marriage in each colony, it will be seen that the chance of marriage for a single woman was greatest in Queensland where it was nearly twice that of Victoria, and about one-third greater than in New South Wales.

Marriage-rate per cent. of Single Women.

Colony.	Marriage per cent.	Colony.	Marriage per cent.
Queensland	9·75	Western Australia	6·55
New South Wales	7·48	Tasmania	5·45
New Zealand	7·39	Victoria	4·94
South Australia	7·10		

Number of persons signing with marks.

The number of persons signing the marriage register with mark has steadily declined for many years past; the proportion o signatures made with marks was, in 1871, 16·96 per cent. of th whole, while in 1887, the percentage had fallen to 3·50, thu showing a satisfactory decrease of illiteracy. The greatest number of persons signing with marks was recorded in the country districts of the Colony, where, in 1871, 18·92 per cent. of the total signatures were so made, as against 13·94 in the city, and 10·98 in the suburbs of Sydney. The proportion of persons unable to write is still much higher in the country than in the metropolis, though it is satisfactory to note the reduction of the percentage from 18·92 in the year mentioned to 4·68 in 1887.

Illiteracy larger in country.

Percentage of Marks to Total Signatures of Persons signing Marriage Registers.

Year.	City.	Suburbs.	Country.	Colony.
1871	13·94	10·98	18·92	16·96
1872	11·47	8·22	15·09	13·62
1873	10·73	8·38	16·53	14·26
1874	10·12	7·93	15·85	11·96
1875	10·67	3·28	14·21	12·26
1876	7·63	3·56	16·71	10·47
1877	8·30	5·85	11·10	9·76
1878	7·16	4·59	9·21	8·10
1879	6·42	4·34	8·85	7·58
1880	6·58	3·97	7·31	6·66
1881	5·41	4·24	8·34	6·94
1882	6·17	3·47	6·00	5·63
1883	5·00	4·00	7·28	6·10
1884	3·60	3·12	6·77	5·23
1885	3·76	2·03	5·99	4·74
1886	3·63	1·90	5·00	3·98
1887	2·85	1·23	4·68	3·50
Mean.	7·26	4·77	10·46	8·69

Illiteracy of women.

The amount of illiteracy, as displayed by inability to write, is greater amongst females than males. This disparity may be due in some measure to a difference in education of the two sexes; but there is reason to believe that timidity and nervousness on the part of the bride is sometimes the reason for declining to sign. In 1871, the first year shown on the foregoing table, the number of women unable to sign their names, who were married amounted to nearly one-fifth of the whole, but the proportion fell to 4 per cent. in 1887.

The following table gives the percentage of males and females signing the marriage registers with marks for every year since 1871.

Year.	Males signing with marks, per cent.	Females signing with marks, per cent.	Year.	Males signing with marks, per cent.	Females signing with marks, per cent.
1871	14	19	1880	6	7
1872	11	15	1881	5	8
1873	12	15	1882	5	6
1874	10	13	1883	5	6
1875	10	13	1884	4	5
1876	9	11	1885	4	5·2
1877	8	11	1886	3·8	4·2
1878	7	8	1887	3	4
1879	6	8			

Marriages chiefly by clergy.

The great bulk of the marriages are solemnized by the clergy; nevertheless, the number of persons married by registrars is fairly large, averaging 5·92 per cent. of the whole, during the past seventeen years, and showing a tendency to increase.

Percentage of Marriages by the Clergy and at Registrars' offices.

Year.	Marriages by Clergy.	Marriages at Registrars' offices.	Year.	Marriages by Clergy.	Marriages at Registrars' offices.
1871	94·46	5·54	1881	93·76	6·24
1872	95·13	4·87	1882	93·75	6·25
1873	95·92	4·08	1883	93·44	6·56
1874	95·21	4·79	1884	92·82	7·18
1875	94·56	5·44	1885	93·30	6·70
1876	94·06	5·94	1886	93·18	6·82
1877	93·93	6·07	1887	93·31	6·69
1878	94·19	5·81			
1879	94·03	5·97	Average for 17 years ...	94·08	5·92
1880	94·29	5·71			

Church of England and Roman Catholic marriages.

As may naturally be expected, the largest number of marriages were celebrated by the Church of England, the Roman Catholic Church coming next; but the percentage of marriages celebrated by each of these Churches falls short of what might have been anticipated from their strength as shown by the census. This is noticeably the case with the Roman Catholic Church. The adherents of this denomination at the census of 1881 were 27·63 per cent. of the population, whereas the marriages solemnized according to its rites during the year 1887 were only 16·09 per cent. of the whole marriages.

Roman Catholic marriages.

To bring the number of Roman Catholic marriages up to the proper proportion they should increase at least 60 per cent. It is plain, therefore, that the adherents of this Church either do not marry within their own communion, or that they do not undertake the responsibilities of marriage to the same extent as other members of the community. The latter supposition is doubtless the correct explanation of the anomaly. The adherents of the Roman Catholic Church are amongst the poorest in the Colony; and want of means is, perhaps, the chief cause of the comparatively small number of their marriages.

Marriages by Church of England.

Proportion of marriages by each denomination.

The disparity between the number of marriages solemnized by the clergy of the Church of England and what might be expected from the numerical strength of the denomination is not so great. During the year 1887, there were celebrated 3,056 marriages according to the rites of this Church, being 40·26 per cent. of the total marriages, while the estimated percentage of its adherents was 45·50. A glance at the following table will show that the number of marriages celebrated during 1887 by ministers of other denominations, notably the Presbyterian, Methodist, Congregational, and Baptist, far exceeded their apparent due proportions.

Marriages by Clergy.

Denomination.	No. of Marriages.	Percentage of total Marriages.	Percentage of adherents to total population, census 1881
Church of England	3,056	40·26	45·50
Roman Catholic	1,221	16·09	27·63
Presbyterian	1,030	13·57	9·16
Wesleyan and Primitive Methodist	997	13·14	8·58
Congregational	536	7·06	1·91
Baptist	120	1·58	0·98
Hebrew	27	0·36	0·44
Other Denominations	95	1·25	5·30
Registrars' Offices	508	6·69	
	7,590		

Marriages registered in the Colony, 1876–87.

Denomination.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Church of England	1,759	1,869	2,098	2,182	2,272	2,487	2,708	2,949	2,893	2,999	2,987	3,056
Roman Catholic	921	980	1,098	982	1,021	1,171	1,315	1,414	1,448	1,258	1,323	1,221
Presbyterian	761	854	821	722	708	872	955	950	1,009	1,155	1,147	1,030
Wesleyan	487	500	550	605	618	651	704	712	759	730	832	770
Primitive Methodist	101	110	94	111	101	146	134	157	165	193	207	227
Congregational	232	243	201	331	364	433	510	565	484	532	554	536
Baptist	39	70	89	90	93	85	79	101	117	137	120	120
Hebrew	14	20	20	22	17	27	22	24	27	27	18	27
German Evangelical	19	20	11	13	9	13	14	10	18	26	17	20
Christians	4	3	11	7	9	3	5	1	5	2	31	34
Other Denominations	18	3	8	4	2	4	2	36	20	49	42	41
Registrars' Offices	275	303	309	322	318	392	434	486	537	510	533	508
Total	4,630	4,994	5,317	5,391	5,572	6,284	6,948	7,405	7,482	7,618	7,811	7,590

DIVORCES.

Marriages dissolved

The Matrimonial Causes Act was assented to on the 3rd of March, 1873. From 1875 to the end of 1887, 244 marriages have been dissolved, the largest number in any year being thirty-two, during 1886. The subjoined table shows the number of decrees for dissolution of marriages granted during the period 1875–87.

Year.	Decrees for dissolution of marriage.	Year.	Decrees for dissolution of marriage.
1875	9	1883	14
1876	19	1884	27
1877	19	1885	23
1878	11	1886	32
1879	10	1887	24
1880	22		
1881	15	Total.........	244
1882	19		

Marriages of divorced persons.

The number of persons divorced in the Colony who married again cannot be ascertained, but during the thirteen years which ended with 1887, fifty-one men and fifty-three women, who had been divorced in New South Wales or elsewhere, were re-married. The largest number in any one year was sixteen, which happened in the years 1883 and 1886; in the former year the numbers were eleven males and five females, whilst in the latter there were eight divorced persons of each sex who re-married.

Year.	No. of divorced persons re-married.		Year.	No. of divorced persons re-married.	
	Males.	Females.		Males.	Females.
1875	1	....	1883	11	5
1876	2	1	1884	6	6
1877	1	3	1885	9	6
1878	2	3	1886	8	8
1879	4	2	1887	4	11
1880	....	1			
1881	1	5	Total......	51	53
1882	2	2			

BIRTH-RATE PER MARRIAGE.

Number of children born to a marriage.

The average number of children born to a marriage varies very little in these colonies, the average for the period 1876–1887 being 4·72, as shown below.

Colony.	Average number of children per marriage.
New South Wales	4·78
Victoria	4·48
South Australia	4·60
Queensland	4·70
Western Australia	4·80
Tasmania	4·32
New Zealand	5·40
Average of Australasian Colonies	4·72

Children per marriage in United Kingdom.

The proportion of children shown above is somewhat higher than in the United Kingdom, though hardly so high as might have been expected, considering the circumstances of these colonies. The average number of children to a marriage in the United Kingdom is:—

England and Wales	4·16
Ireland	5·46
Scotland	4·43

The figures for Ireland are exceptionally high, which is somewhat surprising, as the average age of persons marrying there is much higher than in Australia. The lowest number of children born to a marriage in any of the important European countries is in France, where the average is only 2·98.

BIRTHS.

Mean annual birth-rate.

The mean annual birth-rate of this Colony is higher than any of the other Australasian Colonies, as will be seen from the following table :—

Year.	New South Wales.	Victoria.	South Australia.	Queensland.	Western Australia.	Tasmania.	New Zealand.
1876	38·55	33·61	37·71	37·48	33·98	30·11	41·73
1877	37·92	32·17	37·36	36·75	33·07	30·21	41·28
1878	38·50	32·36	38·23	35·75	31·11	32·27	42·14
1879	38·99	32·18	38·96	36·74	34·38	32·05	40·32
1880	38·80	30·75	38·94	36·92	32·35	32·91	40·78
1881	38·13	31·24	38·66	37·19	33·67	33·40	37·95
1882	37·37	30·05	37·40	35·85	35·84	33·50	37·72
1883	37·49	30·23	37·37	36·92	33·87	34·25	36·28
1884	38·53	30·89	38·38	35·75	33·84	35·66	35·91
1885	37·64	31·37	37·70	36·65	35·21	35·08	34·85
1886	37·03	31·23	35·69	37·58	39·31	34·14	33·14
1887	36·42	32·39	34·65	38·09	37·94	33·87	31·71
Mean for 12 years	37·95	31·54	37·59	36·80	34·55	33·12	37·82

Increase of births.

The births in New South Wales have increased year by year since 1865, and now exceed those of any other colony. The superiority in regard to the number of births rested with Victoria until the year 1879, when the births in this Colony exceeded those of its southern neighbour by 94. Since that year the excess has gradually grown larger, till, during the year 1887, the births registered in New South Wales were more numerous than those registered in Victoria by 4,214.

Number of births in each olony of Australasia.

The number of births registered in each of the colonies for the period 1876–87 is shown in the following table :—

Year.	New South Wales.	Victoria.	South Australia.	Queensland.	Western Australia.	Tasmania.	New Zealand.
1876	23,298	26,769	8,224	6,903	918	3,149	16,168
1877	23,851	26,010	8,640	7,169	912	3,211	16,856
1878	25,328	26,581	9,282	7,397	871	3,502	17,770
1879	26,933	26,839	9,902	7,870	977	3,564	18,070
1880	28,162	26,148	10,262	8,196	933	3,739	19,341
1881	28,993	26,145	10,708	8,220	1,005	3,918	18,732
1882	29,702	26,747	10,844	8,518	1,089	4,043	19,009
1883	31,281	27,541	11,173	9,890	1,058	4,259	19,202
1884	33,946	28,850	11,847	10,679	1,094	4,578	19,846
1885	35,043	29,975	12,046	11,672	1,200	4,637	19,693
1886	36,284	30,824	11,177	12,582	1,466	4,627	19,299
1887	37,236	33,022	10,831	13,513	1,557	4,736	19,135

ex of children orn.

In no year, as far as observation extends, has the number of females born exceeded the males. The numbers of each sex born in New South Wales since 1871 are given below.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1871	10,326	9,817	20,143	1880	14,424	13,738	28,162
1872	10,276	9,974	20,250	1881	14,891	14,102	28,993
1873	10,952	10,492	21,444	1882	15,087	14,615	29,702
1874	11,323	10,855	22,178	1883	16,014	15,267	31,281
1875	11,380	11,148	22,528	1884	17,417	16,529	33,946
1876	11,791	11,507	23,298	1885	17,939	17,104	35,043
1877	12,292	11,559	23,851	1886	18,700	17,584	36,284
1878	13,082	12,246	25,328	1887	18,901	18,335	37,236
1879	13,840	13,093	26,933				

irth of males xceeds females.

The excess of males born over females during the past seventeen years has varied from 2·08 per cent. in 1875 to 6·83 in 1878, the average being 4·63 per cent. The following table shows the proportion of males born to every 100 females :—

Year.	Males born to every 100 females.	Year.	Males born to every 100 females.
1871	105·18	1880	105·00
1872	103·03	1881	105·59
1873	104·38	1882	103·23
1874	104·31	1883	104·89
1875	102·08	1884	105·37
1876	102·47	1885	104·88
1877	106·34	1886	106·35
1878	106·83	1887	103·09
1879	105·71		

Births most numerous in spring.

Births are more numerous in spring than in any other portion of the year, and are fewest in the March quarter. This is found to be the case in the other colonies of Australasia as well as in New South Wales. The following table gives the number of births in each quarter of the year since 1877 :—

Year.	31 March.	30 June.	30 September.	31 December.
1877	5,620	5,837	6,421	5,973
1878	5,962	6,165	6,976	6,225
1879	6,231	6,591	7,264	6,847
1880	6,590	7,116	7,230	7,226
1881	6,976	6,983	7,514	7,520
1882	7,195	7,273	7,827	7,407
1883	7,378	7,755	8,000	8,148
1884	8,141	8,443	9,160	8,202
1885	8,178	8,508	9,656	8,701
1886	8,451	8,976	9,592	9,265
1887	9,075	9,183	9,890	9,088

Birth-rate per thousand.

Separating the Colony into the divisions of city of Sydney, suburbs, and country districts, it will be seen from the following table that the birth-rate per thousand is much higher in the suburbs than in the other divisions. The highest rate reached for the whole Colony was 39·63, in 1871, which was also the year of the greatest birth-rate in the city. The estimated maximum rate for the suburbs was reached in 1884, when the births were 48·28 per thousand of the population. In the country districts, the greatest number of births in proportion to the population occurred in 1874, when the rate was 39·72 per thousand.

Annual birth-rate.

Annual Birth-rate of New South Wales.

Year.	Births per thousand of the population.			
	Colony.	City of Sydney.	Suburbs.	Country.
1871	39·63	38·91	42·62	39·29
1872	38·46	36·63	37·69	38·96
1873	37·99	38·09	40·55	39·44
1874	39·29	37·81	38·57	39·72
1875	38·53	37·44	37·92	38·86
1876	38·55	38·37	37·73	38·74
1877	37·92	38·13	37·18	38·02
1878	38·50	37·61	38·66	38·64
1879	38·99	38·47	39·84	38·91
1880	38·80	37·16	40·61	38·72
1881	38·13	35·84	41·91	37·70
1882	37·37	34·64	44·04	36·29
1883	37·49	33·24	44·89	36·45
1884	38·53	34·80	48·28	36·67
1885	37·64	31·81	46·63	36·21
1886	37·03	31·01	46·29	35·32
1887	36·42	30·19	44·34	35·03
Mean ...	38·19	35·88	41·63	37·82

Excess of births over deaths.

The excess of births over deaths has not shown a steady increase year by year, but has fluctuated somewhat, as will be seen from the succeeding table. In the whole Colony, during the seventeen years from 1871 to 1887, the least excess was 11,757 in 1875, the highest being 23,788 in the year 1887. In the city of Sydney, the least excess was in 1875, viz., 489; the highest in 1887, when the number reached 1,835. The suburbs show more uniform figures than the city. The least excess of births over deaths also occurred in 1875, when it was 1,261; the greatest excess was 6,039, being, as in the case of the other portions of the Colony, in the year just closed, 1887. In the country districts the number ranged from 9,913, in 1876, to 15,914, in 1887.

Excess of Births over Deaths in New South Wales.

Year.	Colony.	City.	Suburbs.	Country.
1871	13,736	1,397	1,718	10,621
1872	12,782	1,069	1,521	10,192
1873	13,833	1,265	1,766	10,802
1874	13,526	1,044	1,588	10,894
1875	11,757	489	1,261	10,007
1876	12,105	819	1,373	9,913
1877	13,982	1,399	1,925	10,658
1878	14,565	1,163	2,023	11,379
1879	16,733	1,448	2,499	12,786
1880	16,931	995	2,439	13,497
1881	17,457	1,495	3,065	12,897
1882	16,886	1,229	3,379	12,278
1883	19,032	1,523	3,819	13,690
1884	19,726	1,594	4,352	13,780
1885	19,761	1,250	4,523	13,988
1886	21,697	1,610	5,250	14,837
1887	23,788	1,835	6,039	15,914

Net annual increase.

The net annual increase to the population by reason of the cess of births over deaths amounts to 2·25 per cent. for a period tending over seventeen years. The rates of increase to popu- tion from excess of births over deaths in the Australasian olonies are :—

Colony.	Increase per cent.
ew Zealand	2·85
uth Australia	2·32
ew South Wales	2·25
ueensland	1·89
estern Australia	1·80
asmania	1·71
ictoria	1·64

Excess in favour of females.

Notwithstanding that the number of males born is considerably rger than that of females, the actual increase of population from e excess of births over deaths is, owing to the greater mortality mongst male children, greatly in favour of the females. During e seventeen years which closed with 1887, the number of females dded to the community by birth exceeded the males by 22,119, r 17·27 per cent.

ILLEGITIMACY.

Illegitimacy increasing.

The number of illegitimate births in the city, suburbs, and country districts, will be found in the following table. Taking the whole period over which the tables extend, it will be seen that the percentage has increased throughout the Colony, and in the city and suburbs, although there has been only a slight improvement in the country districts. As regards the city proper, the increase in illegitimacy has been startling.

Number of Illegitimate Births.

Year.	City.	Suburbs.	Country.	Total.
1871	206	61	515	782
1872	182	66	568	816
1873	199	86	604	889
1874	241	88	606	935
1875	260	85	602	947
1876	306	88	556	950
1877	305	77	607	989
1878	317	108	596	1,021
1879	389	117	709	1,215
1880	411	150	665	1,226
1881	425	167	671	1,263
1882	440	161	660	1,261
1883	439	237	642	1,318
1884	527	259	709	1,495
1885	529	316	767	1,612
1886	533	372	782	1,687
1887	496	377	838	1,711

Illegitimacy in Sydney.

Dividing the fifteen years which ended with 1885 into quinquennial periods, the average number of children born out of wedlock, compared with the total births, and with the legitimate children born during each period, was for the city of Sydney:—

Quinquennial Period.	Per cent. of total births.	Per cent. of legitimate births.
1871–75	7·13	7·70
1876–80	9·75	10·92
1881–85	12·23	13·96
1886	13·90	16·15
1887	13·13	15·12

e bare statement of these figures is a serious reflection upon iorals of the community. That during the past five years hild in every eight should have been born with the brand legitimacy is a startling revelation with regard to social lity. It is also a matter of State concern, as a very large ntage of these unfortunate children become a burden to the ry from their birth, and it is from such that the pauper ation of the Colony is largely recruited. Happily, as regards ty, the case is not so bad as it appears from the table. Not a f the women whose children are born out of wedlock in the really belong to the suburbs or country districts, but to what t does not appear; possibly the smaller proportion of illegiti- births noticeable in the country districts is due to the fact that n who have fallen come to Sydney to hide their shame. The ls of accouchements at the Benevolent Asylum certainly give r to this supposition, for out of the large number of unmarried n whose confinements took place in that institution, it is reasonable to suppose that the suburbs and country contri- l a large quota.

Illegitimate births.

Cause of excess of illegitimacy in the city.

Accouchements in the Benevolent Asylum, Sydney.

.	No. of Confinements.	Married.	Unmarried	Year.	No. of Confinements.	Married.	Unmarried
5	129	50	79	1877	169	41	128
6	129	51	78	1878	160	38	122
7	121	44	77	1879	203	45	158
8	102	46	56	1880	233	51	182
9	112	40	72	1881	225	50	175
0	95	29	66	1882	237	45	192
1	117	54	63	1883	210	33	177
2	102	37	65	1884	305	84	221
3	107	27	80	1885	262	55	207
4	126	36	90	1886	300	71	229
5	113	30	83	1887	257	76	181
6	156	38	118				

Illegitimacy in the city and suburbs.

Taking the city and suburbs of Sydney together, the rates of illegitimacy during the five-year periods since 1871, are :—

Quinquennial Period.	Per cent. of total births.	Legitimate births per cent.
1871-75	5·11	5·41
1876-80	6·21	6·65
1881-85	6·60	7·07
1886	6·89	7·40
1887	6·50	6·96

The rates are much more favourable than those of the city taken separately, and perhaps represent the true state of affairs as regards illegitimacy more accurately than the table already given.

Dividing the illegitimate births of the whole Colony into the same periods as given for the city, their proportions, as compared with the total births, and with legitimate births, are :—

Quinquennial Period.	Per cent. of total births.	Legitimate births per cent.
1871-75	4·09	4·27
1876-80	4·22	4·42
1881-85	4·36	4·57
1886	4·65	4·88
1887	4·59	4·82

Colony compares favourably with other countries.

Taken as a whole, the Colony compares favourably with most other countries, though its rate as computed from 1871 is higher than that of Victoria, Queensland, or New Zealand, for the same period, though not so high as Tasmania.

Percentage of Illegitimate Births to Total Births in the Australasian Colonies, and United Kingdom.

Country.	Illegitimate births per cent.
New South Wales	4·27
Victoria	4·14
Queensland	3·67
Tasmania	4·30
New Zealand	2·38
England	4·92
Ireland	2·46
Scotland	8·64

Illegitimacy in foreign states.

The following figures, taken from Mulhall's Dictionary of Statistics, show the percentage of illegitimate births in various countries :—

Percentage of Illegitimate Births.

Denmark	11·2	Spain	5·5
Sweden	10·2	Portugal	5·5
Norway	8·5	Canada	5·0
Germany	8·4	Switzerland	4·6
France	7·2	Holland	3·5
Belgium	7·0	Russia	3·1
United States	7·0	Greece	1·6
Italy	6·8		

The rate of illegitimate births in Austria was 12·9 per cent., a ratio much larger than that of any country included in the above table, the excessive number of children born out of wedlock being occasioned by the extraordinary laws enforced by the government of the Austrian Empire, regulating the age before which a man was incapable of contracting a legal marriage.

The rates for all these colonies are smaller than those of England and Scotland, but illegitimacy is increasing here, while it is decreasing in the United Kingdom.

Percentage of illegitimacy to total births.

Illegitimate Births—Percentage to Total Births in New South Wales.

Year.	City.	Suburbs.	Country.	Colony.
1871	6·91	2·34	3·53	3·88
1872	6·32	2·70	3·80	4·02
1873	6·49	3·11	3·86	4·14
1874	7·72	3·15	3·72	4·21
1875	8·22	2·92	3·65	4·20
1876	9·24	2·87	3·28	4·07
1877	8·97	2·37	3·52	4·14
1878	9·09	2·93	3·28	4·03
1879	10·47	2·82	3·72	4·51
1880	11·00	3·25	3·36	4·35
1881	11·36	3·23	3·34	4·36
1882	11·72	2·74	3·28	4·24
1883	11·68	3·62	3·05	4·21
1884	12·76	3·34	3·21	4·40
1885	13·61	3·77	3·37	4·60
1886	13·90	4·00	3·38	4·65
1887	13·13	3·91	3·52	4·59

TWINS AND TRIPLETS.

Triplets and Twins.

During the year 1887 there was one case of triplets, which occurred at Wollongong. Twins numbered 310 cases, comprising 294 males and 325 females, in all 619 children, one other being still-born. The number of children born as triplets and twins forms 1·67 per cent. of the total births.

District.	Triplets.				Twins.			
	No. of cases.	M.	F.	Total.	No. of cases.	M.	F.	Total.
Sydney...	......	......	......	......	25	27	23	50
Suburbs..	......	......	......	......	84	75	92	167*
Country..	1	3	......	3	201	192	210	402
	1	3	......	3	310	294	325	619

Twins and Triplets born in New South Wales.

Year.	Triplets.				Twins.			
	No. of cases.	M.	F.	Total.	No. of cases.	M.	F.	Total.
1878	2	3	1	4†	196	195	197	392
1879	2	1	5	6	203	206	198	404†
1880	......	......	......	......	224	230	218	448
1881	4	8	4	12	224	219	227	446†
1882	......	......	......	......	213	217	208	425*
1883	2	3	3	6	287	277	297	574
1884	4	6	6	12	288	277	295	572‡
1885	2	5	1	6	306	305	307	612
1886	1	......	3	3	330	284	373	657§
1887	1	3	......	3	310	294	325	619*
	18	29	23	52	2,581	2,504	2,645	5,149

* One still-born. † Two still-born. § Three still-born. ‡ Four still-born.

Proportion of total births

As stated in the foregoing table, there were 2,581 cases of twins and 18 cases of triplets during the ten years 1878–87. The total number of confinements recorded in this period was

Twins and triplets born

310,306. It follows, therefore, that one mother in every 120 gave birth to twins, and one mother in every 17,239 was delivered of three children at a birth.

DEATHS.

The number of deaths occurring in the Colony averages 16·58 for males, and 13·99 for females, per thousand persons, or 15·40 for the whole population. Compared with the death-rates of other countries, especially those of the Old World, this rate is remarkably low. Yet, as will presently appear, it is higher than might be anticipated from the peculiarly healthy climatic conditions which pertain to New South Wales.

Mean death-rate.

The mean death-rate of the Australasian Colonies varies from 11·22 per thousand, in New Zealand, to 17·55, in Queensland, and averages 15·12, which is a little higher than the rate of Victoria. Four colonies are over the mean rate:—New South Wales with 15·40; Queensland, 17·55; Western Australia, 16·31; and Tasmania, 15·93 per thousand, while three are lower:—Victoria, 15·05; South Australia, 14·44; and New Zealand, 11·22 per thousand.

Mean Death-rate of the Australasian Colonies.

Year.	New South Wales.	Victoria.	South Australia.	Queensland.	Western Australia.	Tasmania.	New Zealand.
1876	18·52	17·02	16·28	18·82	14·18	16·54	12·66
1877	15·69	15·80	13·99	17·29	15·70	19·17	11·47
1878	16·36	15·46	15·44	20·41	14·07	15·66	11·01
1879	14·76	14·53	14·09	14·97	14·46	15·18	12·46
1880	15·47	13·70	14·85	13·59	13·24	16·12	11·46
1881	15·17	14·16	14·49	15·02	13·80	14·77	11·13
1882	16·12	15·32	15·15	17·99	14·16	15·79	11·19
1883	14·68	14·28	14·83	18·82	17·93	17·06	11·45
1884	16·14	14·46	15·52	22·97	21·87	15·50	10·39
1885	16·41	14·98	12·47	19·58	17·60	15·40	10·76
1886	14·88	15·15	13·52	16·65	21·56	14·58	10·53
1887	13·15	15·69	12·62	14·56	17·11	15·45	10·17
Mean.. ...	15·40	15·05	14·44	17·55	16·31	15·93	11·22

Death-rate of males and females compared.

The death-rate of males averages in this Colony 16·58 per thousand, or more than one-sixth higher than that of females. The deaths of both sexes will be seen below.

Deaths, and Death-rate of New South Wales.

Year.	Males.	Females.	Total.	Death Rate per 1,000 of mean population.		
				Males.	Females.	Total.
1871	3,882	2,525	6,407	13·98	10·95	12·61
1872	4,442	3,026	7,468	15·45	12·66	14·18
1873	4,599	3,012	7,611	15·50	12·15	13·98
1874	5,022	3,630	8,652	16·35	14·11	15·33
1875	6,245	4,526	10,771	19·64	16·97	18·42
1876	6,508	4,685	11,193	19·82	16·98	18·52
1877	5,877	3,992	9,869	17·19	13·90	15·69
1878	6,284	4,479	10,763	17·55	14·94	16·36
1879	6,082	4,118	10,200	16·16	13·10	14·76
1880	6,638	4,593	11,231	16·76	13·94	15·47
1881	6,753	4,783	11,536	16·23	13·90	15·17
1882	7,596	5,220	12,816	17·45	14·51	16·12
1883	7,116	5,133	12,249	15·58	13·59	14·68
1884	8,325	5,895	14,220	17·24	14·81	16·14
1885	8,900	6,382	15,282	17·40	15·22	16·41
1886	8,501	6,086	14,587	15·76	13·82	14·88
1887	7,776	5,672	13,448	13·82	12·34	13·15
Mean.........................				16·58	13·99	15·40

Greater mortality amongst males.

The principal cause of the greater mortality amongst males is found in the nature of their occupations, with the accidents and exposure attendant thereon. This is especially marked in the country districts of the Colony, where deaths from accident are extremely numerous, especially among males. Besides this, the greater delicateness of male infants operates to increase the death-rate as compared with that of females. It has been shown elsewhere that the natural increment to the population by births is in the proportion of 104·63 males to 100 females; but, from the causes alluded to, the net increase of population by excess of births over deaths is largely in favour of females. For the five years, 1883–7, this excess averaged 15·09 per annum.

Comparison of male with female deaths.

The excess of males in the community, with the consequent larger number of male deaths, makes the comparison appear more favourable to female lives than is actually the case. The following table has been computed on the assumption that the males and females in the community are equal in number, as they soon would be if it were not for the excess of males yearly added to the population by immigration. It would appear, however, from the table, that the extra proportion of males born by no means counterbalances the extra number of male deaths.

Male births in excess.

Male and Female Deaths.

Year.	Male deaths.	Female deaths.	Computed male deaths, if male and female population were equal.	Excess of computed male over female deaths.	Excess of male over female births.
1876	6,508	4,685	5,470	785	284
1877	5,877	3,992	4,933	941	733
1878	6,284	4,479	5,263	784	836
1879	6,082	4,118	5,081	963	747
1880	6,638	4,593	5,523	930	686
1881	6,753	4,783	5,585	802	789
1882	7,596	5,220	6,278	1,058	472
1883	7,116	5,133	5,884	751	747
1884	8,325	5,895	6,863	968	888
1885	8,900	6,382	7,296	914	835
1886	8,501	6,086	6,941	855	1,116
1887	7,776	5,672	6,354	682	566
Total for twelve years				10,433	8,699

The season of the year in which deaths are most numerous is the quarter ending March, but the number of deaths in the December quarter is nearly as great, and for some years has exceeded that of the first quarter. The deaths for 1887 show a

Deaths most numerous in March quarter.

very satisfactory decline from those of the previous year. Taking the last ten years, the deaths during each quarter of the year were :—

Deaths during each Quarter of the Year.

Year.	31 March.	30 June.	30 September.	31 December.
1878	2,953	3,018	2,336	2,456
1879	2,857	2,563	2,232	2,548
1880	2,677	2,621	2,571	3,362
1881	3,169	2,825	2,608	2,934
1882	3,485	3,290	2,911	3,130
1883	3,125	3,081	2,790	3,253
1884	3,699	3,602	3,126	3,793
1885	3,924	3,750	3,586	4,022
1886	3,718	3,720	3,320	3,829
1887	3,980	3,362	2,805	3,301

Favourable death-rate of Colony.

It has been already pointed out that in regard to its death-rate the Colony compares very favourably with the older countries of the world. Taken over a long series of years, the average deaths per thousand of mean population in the United Kingdom and several of the leading European countries, are :—

Great Britain	21·5
Germany	27·1
France	23·5
Belgium	22·5
Austria	30·8
Italy	29·8
Holland	24·2
Average	25·63
New South Wales	15·40

Death-rate lower in Australia than Europe.

The years in which war raged have been omitted from the average given below, but there are many other causes operating to increase the European rate, which have not yet affected the colonies. Chief amongst these are the scourges of small-pox and cholera. It is not, therefore, surprising that even the healthiest country of Europe should have a higher annual death-rate than any Colony of Australasia. Considering the favourable environments of the population in New South Wales, the matter for surprise is not that the difference is so great, but that it is not greater. Apart rom climatic conditions, which are most favourable here, the ocial condition of the great body of the people is far superior, nd their occupations more healthful than in Europe ; and were t not for the pitiable loss of infant life, the death-rate of this olony would not reach much more than half the European verage.

Mortality in the Colony and its subdivisions.

For the purpose of comparison, the obvious divisions of city, uburbs, and country districts suggest themselves, and the annual eath-rate of each subdivision of the Colony for the years 1871–87 s given in the subjoined table.

Deaths in New South Wales, per Thousand of Population.

Year.	Colony.	City of Sydney.	Suburbs.	Country.
1871	12·61	20·67	14·46	10·63
1872	14·18	23·03	14·15	12·37
1873	13·98	22·37	14·63	12·15
1874	15·33	25·16	16·59	13·12
1875	18·42	31·65	21·47	15·23
1876	18·52	28·87	20·79	16·05
1877	15·69	22·43	15·13	14·47
1878	16·36	25·05	17·37	14·44
1879	14·76	23·47	15·83	12·82
1880	15·47	27·26	19·16	12·34
1881	15·17	21·50	17·07	13·48
1882	16·12	23·30	18·71	14·09
1883	14·68	19·76	18·65	12·68
1884	16·14	21 36	21·14	13·78
1885	16·41	21·58	21·46	13·97
1886	14·88	17·99	20·15	12·69
1887	13·15	15·52	16·57	11·62
Mean	15·40	23·00	17·84	13·29

Variations in death rates.

The death-rate for the whole Colony varied from 12·61 to 18·52, range of 5·91 per thousand. In the city, however, the rate aried between 15·52 and 31·65, the range being 16·13 per housand ; in the suburbs, the lowest rate was 14·15, and the ighest touched 21·81, giving a range of 7·66 per thousand. In he country districts 10·63 was the lowest rate in the seventeen ears, and 16·05 the highest, 5·42 being the range.

Maximum, Minimum, and Mean Death-rate.

Districts.	Per 1,000 of mean population.		
	Maximum.	Minimum.	Mean.
Colony	18·52	12·61	15·40
City	31·65	15·52	23·00
Suburbs	21·81	14·15	17·84
Country	16·05	10·63	13·29

Death-rate of persons over 5 years.

Taking the deaths of persons over 5 years of age, the rates for the metropolitan district and the country are not only more favourable, but more equal.

Death-rates of Persons over Five Years of Age.

Districts.	Per 1,000 of mean population.		
	Maximum.	Minimum.	Mean.
Colony	12·78	8·70	10·34
City	19·70	10·67	15·31
Suburbs	11·46	7·64	9·48
Country	11·71	7·97	9·49

Infant mortality cause of high death-rate in city and suburbs.

The city maximum rate was in 1876, and is the disturbing element in the whole series, otherwise the death-rates are particularly favourable for these ages. Turning to deaths under 5 years, which may be generally termed the ages of infantile life, the chief factor of the excessive death-rate of the city and suburbs will be found.

Death-rates of Children under Five Years of Age.

Districts.	Per 1,000 of mean population.		
	Maximum.	Minimum.	Mean.
Colony	53·64	32·56	43·90
City	105·64	50·50	72·19
Suburbs	86·99	46·02	68·56
Country	40·37	24·00	34·01

The lesson conveyed by the above table is a very striking one. The minimum death-rate of infants in the suburbs exceeded the maximum rate of the country by about 14 per cent., and the minimum of the city exceeded the country maximum by over 25 per cent. The mean rate of the country was not half that of the uburbs, nor more than 47 per cent. of the city rate.

Natural salubrity of the Colony.

When the circumstances of life in the country districts are considered, the distance sick persons are removed from the comforts, and even the necessaries, which sickness demands, the full meaning of the low rate, both for adults and children, will best be understood. No more potent argument could be advanced as to the natural salubrity of the Colony than the statement of the death-rates, as recorded outside the walls of the metropolis.

Death-rate of children lowest in the country.

All satisfaction, however, in regard to the low death-rate is confined to the country districts. As far as Sydney and its suburbs are concerned, there is no cause for congratulation; on the contrary, the rate at which children of tender years drop into the grave forms a pathetic commentary on the civilization of the Colony. In 1875, out of every thousand children under 5 years of age in the city, nearly 106 died during the year. Nor does that year's record stand as a solitary warning of the results of disease and neglect, for five years afterwards the number of children who died out of every thousand was no less than 96, and taking the whole period embraced in the table, the death-rate of children under 5 years was 72 per thousand.

Death-rate in the suburbs.

Turning to the suburbs, which most persons have been accusomed to look upon as healthy retreats from the confinement of he city, the case is still more alarming. It may be true that the death-rate of infants, taken for seventeen years, is less than in he city, but the hope of the city lies in the fact that its salubrity as steadily improved, and may continue to do so, while, in regard o the suburbs, the death-rate has been steadily growing. At the commencement of the seventeen years' period, the suburbs could

Comparison of quinquennial periods.

[illegible] a death-rate of one-third less than the city; now it is considerably higher. The following quinquennial table has been compiled in order to illustrate the gradual change which has occurred since 1871:—

Death-rate of New South Wales in Quinquennial Periods.

Quinquennial periods.	Colony.	City.	Suburbs.	Country.
		All ages.		
1871-75	14·90	24·58	16·26	12·70
1876-80	16·16	25·42	17·66	14·02
1881-85	15·70	21·41	19·48	13·60
1886	14·88	17·99	20·15	12·69
1887	13·15	15·52	16·57	11·62
		Over 5 years.		
1871-75	10·16	15·86	8·77	9·29
1876-80	10·77	16·85	9·02	9·89
1881-85	10·46	14·81	10·31	9·61
1886	9·36	12·02	11·01	9·08
1887	8·92	10·67	9.58	8·39
		Under 5 years.		
1871-75	39·34	73·33	56·01	30·37
1876-80	47·41	80·14	74·06	36·32
1881-85	48·50	67·69	76·63	35·96
1886	45·42	60·91	74·92	34·03
1887	38·65	50·50	57·05	30·82

Improvement in city rates.

A remarkable improvement may be noticed in the death-rate of the city, both for ages over and under 5 years. In the country, during the intermediate period, the rate showed an increase, particularly amongst infant lives; but the third quinquennial period is marked by a slight recovery, which is quite eclipsed by the striking decline in the death-rates of 1886 and 1887. As regards the suburbs, the signs are not so assuring, for although a considerable improvement is manifest in 1887, the rates of 1886 and the previous five years are much higher than in the two preceding quinquennial periods; and during 1886 and 1887 the death-rates of persons under 5 years were considerably higher than in the city or the country. The following extended tables show the pro-

Death-rate of persons under and over 5 years.

portion of children under 5 years, and of persons over that age who died, as compared with the whole population :—

Death-rate in New South Wales under and over Five Years of age per Thousand of Mean Population.

Year.	Children under 5 years.				Persons over 5 years.			
	Colony.	City.	Suburbs.	Country.	Colony.	City.	Suburbs.	Country.
1871	32·56	65·35	47·57	24·00	8·70	12·87	7·79	7·97
1872	37·16	69·26	46·95	29·58	9·68	14·89	7·64	9·31
1873	32·97	59·91	46·02	25·84	10·28	15·79	8·53	9·44
1874	41·37	76·51	59·18	32·07	10·31	16·30	8·65	9·38
1875	53·64	105·64	80·35	40·37	11·81	19·43	11·23	10·35
1876	49·66	86·55	80·71	38·52	12·78	19·70	11·02	11·71
1877	44·41	67·42	61·56	37·83	10·47	15·38	7·91	9·98
1878	49·39	82·08	73·91	39·77	10·51	16·20	8·85	9·71
1879	42·75	69·34	67·13	33·88	9·90	16·35	8·22	8·97
1880	45·83	95·30	86·99	31·62	10·21	16·61	9·12	9·07
1881	43·63	61·79	71·00	35·21	10·25	15·42	8·94	9·52
1882	46·61	70·27	74·93	36·66	10·86	16·38	9·90	10·00
1883	43·46	65·32	73·48	33·12	9·75	13·11	10·02	9·00
1884	48·92	71·49	82·22	36·98	10·60	14·26	11·25	9·68
1885	49·86	69·59	81·50	37·84	10·86	14·86	11·46	9·89
1886	45·42	60·91	74·92	34·03	9·86	12·02	11·01	9·08
1887	38·66	50·50	57·05	30·82	8·92	10·67	9·58	8·39
Mean...	43·90	72·19	68·56	34·01	10·34	15·31	9·48	9·49

Deaths of children under 1 year.

The following tables give the number of children under 1 year dying in the city, suburbs and country ; and the number per thousand, as compared with the births. This latter approximately represents the proportion of children born who died within a year.

boast a death-rate of one-third less than the city ; n
considerably higher. The following quinquennial table
compiled in order to illustrate the gradual change w
occurred since 1871 :—

Comparison of quinquennial periods.

Death-rate of New South Wales in Quinquennial Pe

Quinquennial records.	Colony.	City.	Suburbs.	C
		All ages.		
1871-75	14·90	24·58	16·26	
1876-80	16·16	25·42	17·66	
1881-85	15·70	21·41	19·48	
1886	14·88	17·99	20·15	
1887	13·15	15·52	16·57	
		Over 5 years.		
1871-75	10·16	15·86	8·77	
1876-80	10·77	16·85	9·02	
1881-85	10·46	14·81	10·31	
1886	9·86	12·02	11·01	
1887	8·92	10·67	9.58	
		Under 5 years.		
1871-75	39·54	75·33	56·01	
1876-80	46·41	80·14	74·06	
1881-85	46·50	67·69	76·63	
1886	45·42	60·91	74·92	
1887	38·66	50·50	57·05	

Improvement in city rate.

A remarkable improvement may be noticed in the deat
the city, both for ages over and under 5 years. In the
during the intermediate period, the rate showed an increase,
larly amongst infant lives; but the third quinquennial
marked by a slight recovery, which is quite eclipsed
striking decline in the death-rates of 1886 and 1887. A
the suburbs, the signs are not so assuring, for although a
able improvement is manifest in 1887, the rates of 1886
previous five years are much higher than in the two
quinquennial periods; and during 1886 and 1887 the d
of persons under 5 years were considerably higher tha
city or the country. The following extended tables sho

hildren under 5 years, and of persons over that age compared with the whole population :—

Death-rate of persons under and over 5 years.

e in New South Wales under and over Five Years of age per Thousand of Mean Population.

Children under 5 years.				Persons over 5 years.			
ny.	City.	Suburbs.	Country.	Colony.	City.	Suburbs.	Country.
56	65·35	47·57	[illegible]	8·70	12·87	7·79	7·97
16	69·26	46·95	29·58	9·68	14·80	7·64	9·31
97	59·91	46·62	25·84	10·28	15·79	8·53	9·44
37	76·51	59·18	32·67	10·31	16·30	8·65	9·38
64	105·64	80·25	40·37	11·81	19·43	11·23	10·35
66	86·55	80·71	38·52	12·78	19·70	11·02	11·71
41	67·42	61·56	37·63	10·47	15·38	7·91	9·98
[illegible]	82·08	73·91	30·77	10·51	16·20	8·85	9·71
75	69·34	67·13	33·88	9·90	16·35	8·22	8·07
[illegible]	95·30	86·90	31·62	10·21	16·61	9·12	9·07
[illegible]	61·79	71·00	35·21	10·25	15·42	8·94	9·52
[illegible]	70·27	74·93	36·66	10·86	16·38	9·90	10·00
[illegible]	65·32	73·48	33·12	9·75	13·11	10·02	9·00
[illegible]	71·49	82·22	36·98	10·60	14·26	11·25	9·68
[illegible]	60·50	81·50	37·84	10·86	14·86	11·46	9·89
[illegible]	60·91	74·92	34·03	9·86	12·02	11·01	9·08
[illegible]	50·50	57·05	30·82	8·92	10·67	9·58	8·39
[illegible]	72·19	68·56	34·01	10·34	15·31	9·48	9·49

tables give the number of children under 1 year city, suburbs and country ; and the number per compared with the births. This latter approximately proportion of children born who died within a ye

Deaths of children u 1 year.

Deaths of Children under One Year of Age.

Year.	Colony.		City.		Suburbs.		Country.	
	Total.	Per 1,000 births.	Total.	Per 1,000 births.	Total.	Per 1,000 births.	Total.	Per 1,000 births.
1871	1,812	89·9	467	156·7	318	122·2	1,027	70·5
1872	2,116	104·4	507	176·1	339	139·1	1,270	85·0
1873	1,985	92·5	487	158·8	341	123·4	1,157	74·0
1874	2,428	109·4	588	188·4	403	144·6	1,437	88·3
1875	2,695	119·6	613	193·8	461	158·5	1,621	98·4
1876	2,629	112·8	561	169·4	521	170·3	1,547	91·3
1877	2,785	116·7	562	165·3	476	146·6	1,747	101·5
1878	3,126	123·4	650	186·5	591	160·8	1,885	103·7
1879	2,886	107·3	612	164·7	594	143·2	1,680	88·0
1880	3,200	113·6	785	210·1	821	177·7	1,594	80·4
1881	3,341	115·2	608	162·5	836	161·6	1,897	94·4
1882	3,897	131·2	737	196·3	1,028	174·9	2,132	106·2
1883	3,590	114·7	668	177·8	1,012	154·8	1,910	90·9
1884	4,285	126·2	769	186·2	1,272	164·2	2,244	101·6
1885	4,596	131·1	780	200·7	1,512	180·4	2,304	101·1
1886	4,635	127·7	702	183·1	1,573	169·2	2,360	101·9
1887	3,945	105·9	573	151·7	1,317	136·6	2,055	86·3
Mean...	......	114·2	......	178·1	......	154·6	......	92·0

Deaths of Children under One Year per Thousand Births, in Quinquennial Periods.

Quinquennial period.	Colony.	City.	Suburbs.	Country districts.
1871–75	103·16	174·76	137·56	83·24
1876–80	114·72	179·20	159·72	92·98
1881–85	123·68	184·70	167·18	98·84
1886	127·74	183·10	169·23	101·92
1887	105·94	151·71	136·57	86·29

Infant mortality greater in towns.

The experience of the United Kingdom shows that infant mortality is always higher in large towns than in the country districts. The experience of this Colony is somewhat similar. But, though the conditions of life in England are more favourable in the country districts than in the towns, the same is not necessarily the case here. In sparsely scattered communities, such as the country districts of this Colony mainly comprise, it is frequently impossible to obtain for children of tender years articles which in towns are considered, and rightly so, almost necessaries of life. Were it not, therefore, for the contagions which seem incidental to towns, the death-rate of children might naturally be expected to be, so far as this Colony is concerned, higher in the country than in the city. That such is not the case is evident, from the tables given above. Compared with the other colonies, and England and France, the rates of New South Wales, nevertheless, seem very favourable.

The Colonies compared with England and France.

Death-rates of Children under One Year in the Australasian Colonies, England, and France.

Country.	Deaths of children under 1 year per 1,000 births.
New South Wales	114·20
,, ,, country districts	91·97
Victoria	123·80
South Australia	148·60
Queensland	128·95
New Zealand	98·30
Tasmania	104·65
England and Wales	146·00
France	157·00

Comparison favourable to New South Wales.

The death-rate of infants in the country districts is lighter than that of any country included in the above table; and, in point of health, the Colony, taken as a whole, is surpassed only by Tasmania and New Zealand.

Colony compares favourably with other countries.

The general salubrity of the Colony may be taken as well established, and if the deaths of Sydney and suburbs, especially amongst young children, were not relatively more numerous than for the rest of the Colony, New South Wales need not fear comparison with any country.

The high death-rates of Sydney certainly do not arise from natural causes. Seated on the hilly shores of Port Jackson, its situation is all that could be desired, and the configuration of the ground on which it stands is especially adapted to the requirements of a perfect drainage system. What Nature with lavish hand has bestowed, is, however, in danger of being destroyed or polluted; for looking through the causes of death, the conclusion is inevitable that no small part of the mortality of Sydney and its suburbs arises primarily, or indirectly, from diseases which sanitary precautions might avert.

nfant death-
ate in the city
ormerly higher.

As far as the city proper is concerned, its infant death-rate was high twenty years ago, and has been more alarming than at present; but once roused to a recognition of the insanitary state of the city, the inhabitants began to desert its sewerless streets for the healthful districts round about, and thus the suburbs were gradually formed. In 1871, the mortality in the suburbs, amongst children under 5, was 47·57 per thousand; it 1880 it reached 86·99, but this was one of the years in which the metropolis was visited by an epidemic of measles. In 1887 it was 57·05, which though far below the average annual rate (68·56) since the first mentioned year is in excess of the city rate; so that instead of being healthier than the city, as most persons still imagine, the suburbs of Sydney exhibit on the whole a much higher death-rate.

ligh death-rate
f 1875.

In 1875, Sydney was troubled by an extraordinary visitation of sickness, which took the form of an epidemic of measles. A large number of children died from this disease, and many of the sufferers who were recovering were so susceptible to bronchitis, pneumonia, diarrhœa, and convulsions, that in consequence of the ordeal through which they had already passed these diseases, in many instances, caused a fatal termination. A considerable number of deaths were also attributed to scarlatina during 1875. On the whole, the mortality of children under 5 years of age was so great that their numbers were literally decimated; for out of 23,327, then living in Sydney and suburbs, 2,177 died during the year. From that terrible visitation the city has to some extent recovered, but the suburbs have not entirely regained their normal state. In the years prior to 1875 the death-rate of the city was about 20·0 per thousand greater than that of the suburbs, but in 1887 the suburban death-rate of children under 5 years was 6·55 per thousand higher than the city.

Sydney compares well with other capitals.

In spite of its apparently high mortality, compared with several other Australian capitals, the result is generally favourable to Sydney, and considerably below that of the chief European cities.

Death-rate per Thousand of the chief Australasian and European cities.

Australasian.

Adelaide	19·2	Melbourne	20·6
Hobart	23·2	Brisbane	19·8
Sydney	20·5	Wellington	15·8

United Kingdom.

Manchester	29·9	Glasgow	24·2
Dublin	29·6	Bristol	23·7
Liverpool	29·1	London	22·8
Salford	27·8	Plymouth	22·3
Newcastle	26·6	Edinburgh	20·8
Sheffield	25·8	Portsmouth	20·2
Birmingham	24·4		

Continental Europe.

St. Petersburg	35·2	Leipsic	26·1
Madrid	38·3	Stockholm	24·6
Buda-Pesth	34·2	Brussels	22·6
Milan	29·1	Amsterdam	24·3
Vienna	29·2	Venice	22·7
Paris	26·3	Copenhagen	22·1
Berlin	26·4	Geneva	21·2
Rome	26·1	Christiania	18·4

This list is fairly representative, and largely as the rate for Sydney is swollen by the death of children of tender years, whose lives are often needlessly sacrificed, the comparison is satisfactory.

CAUSES OF DEATH.

The system of classifying causes of death proposed by the late Dr. William Farr, F.R.S., in conjunction with Dr. Marc d'Espine, which was in vogue in the United Kingdom and in the colonies for over a quarter of a century, has within the last few years been abandoned in favour of one arranged by Dr. William Ogle, Dr. Farr's successor at the General Register Office, London, upon the basis of a mode of classification determined upon by a joint committee appointed by the Royal College of Physicians, London; and whilst this latter includes a few important deviations from the former, the changes on the whole are in the direction of more extensive exemplification, so that the admirable system of Dr. Farr still forms the groundwork of the new classification.

Deaths from each cause.

The number of deaths from each cause during the year 1887 are here given; those for the metropolis and the country districts being recorded separately. For purposes of comparison the causes of death as far back as 1881 have been re-arranged in classes according to the new and improved system, and will be found in the table immediately following the death-roll for 1887.

Classification of Fatal Diseases in Sydney and Suburbs, and proportion per cent. of Deaths from each cause—1887.

Class.	Causes of Death.	Under 5 Years.		Over 5 Years.		Total.	Proportion per cent.
		Male.	Female.	Male.	Female.		
I.	Specific Febrile, or Zymotic diseases	266	276	172	126	840	15·15
II.	Parasitic diseases	4	5	2	7	18	·32
III.	Dietic diseases	24	18	36	16	94	1·69
IV.	Constitutional diseases.	111	95	420	331	957	17·25
V.	Developmental diseases	121	95	45	70	331	5·97
VI.	Local diseases	620	543	786	643	2,592	46·74
VII.	Violence	34	25	205	53	317	5·72
VIII.	Ill-defined and not specified causes	195	166	22	14	397	7·16
	All causes	1,375	1,223	1,688	1,260	5,546	100·00

METROPOLIS.

Class I.—Specific Febrile, or Zymotic Diseases.

Classification of Diseases—Metropolis.

Order 1. *Miasmatic Diseases.*—Small-pox, 13; measles, 44; scarlet fever, 44; whooping cough, 43; diphtheria, 62; cerebro-spinal fever, 1; simple and ill-defined fever, 2; typhoid, enteric fever, 191.

Order 2. *Diarrhœal Diseases.*—Cholera, 18; diarrhœa, 318; dysentery, 18.

Order 3. *Malarial Diseases.*—Remittent fever, 3.

Febrile diseases.

Order 4. *Zoogenous Diseases.*—None.

Order 5.—*Venereal Diseases.*—Syphilis, 43; gonorrhœa, stricture of urethra, 5.

Order 6. *Septic Diseases.*—Phagedæna, 2; erysipelas, 9; pyæmia septicæmia, 9; puerperal fever, 15.

Class II.—Parasitic Diseases.

Thrush, 8; hydatid disease, 9; worms, &c., 1.

Class III.—Dietic Diseases.

Starvation, want of breast milk, 43; intemperance—*(a)* chronic alcoholism, 37; *(b)* delirium tremens, 13; surfeit (over-eating), 1.

Class IV.—Constitutional Diseases.

Rheumatic fever, rheumatism of heart, 11; rheumatism, 22; gout, 4; cancer, 143; tabes mesenterica, 117; tubercular meningitis (hydrocephalus), 72; phthisis, 513; other forms of tuberculosis, scrofula, &c., 41; purpura, hæmorrhagic diathesis, 7; anæmia, chlorosis, leucocythæmia, 14; diabetes mellitus, 13.

Class V.—Developmental Diseases.

Premature birth, 169; atelectasis, 7; cyanosis, 13; spina bifida, 1; imperforate anus, 5; cleft palate, 4; other congenital defects, 17; old age, 115.

Class VI.—Local Diseases.

Local diseases.

Order 1. *Diseases of the Nervous System.*—Inflammation of the brain or its membranes, 121; apoplexy, 130; softening of the brain, 20; hemiplegia, brain paralysis, 53; paralysis agitans, 1; insanity, general paralysis of the insane, 28; chorea, 3; epilepsy, 30; convulsions, 240; laryngismus stridulus, 1; idiopathic tetanus, 12; paraplegia, diseases of the spinal cord, 22; others, 28.

Order 2. *Diseases of the Organs of Special Sense.*—Otitis, otorrhœa, disease of the ear, 6; epistaxis, disease of the nose, 3; ophthalmia, disease of the eye, 1.

Order 3. *Diseases of the Circulatory System.*—Endocarditis, valvular disease, 82; pericarditis, 7; hypertrophy of heart, 3; angina pectoris, 7; syncope, 21; aneurism, 28; senile gangrene, 2; embolism, thrombosis, 5; heart disease (undefined), 195.

Order 4. *Diseases of the Respiratory System.*—Laryngitis, 23; croup, 48; other diseases of larynx and trachea, 2; emphysema, asthma, 19; bronchitis, 216; pneumonia, 194; congestion of the lungs, 57; pleurisy, 18; lung disease (undefined), 11.

Order 5. *Diseases of the Digestive System.*—Stomatitis, 5; dentition, 121; sore throat, quinsy, 5; dyspepsia, 5; hæmatemesis, 1; melæna, 2; diseases of the stomach, 45; enteritis, 271; ulceration of intestines, 10; ileus, obstruction of intestine, 21; stricture or strangulation of intestine, 1; intussusception, 5; hernia, 8; peritonitis, 40; ascites, 5; gallstones, 2; cirrhosis of liver, 44; hepatitis, 22; jaundice, 13; other diseases of liver, 45; other diseases of the digestive system, 6.

Order 6. *Diseases of the Lymphatic System and Ductless Glands.*—Diseases of lymphatic system, 1; diseases of spleen, 2; bronchocele, 1; Addison's disease, 2.

Order 7. *Diseases of the Urinary System.*—Acute nephritis, 33; Bright's disease, 75; uræmia, 19; suppression of urine, 3; calculus, 1; hæmaturia, 1; disease of bladder and prostate, 21; kidney disease (undefined), 9.

Order 8. *Diseases of the Organs of Generation.*—Ovarian disease, 8; diseases of uterus and vagina, 8; disorders of menstruation, 3; pelvic abscess, 3; diseases of testes, penis, scrotum, &c., 1.

Order 9. *Diseases of Parturition.*—Abortion, miscarriage, 6; puerperal mania, 2; puerperal convulsions, 21; placenta prævia, flooding, 12; phlegmasia dolens, 1; other accidents of childbirth, 10.

Order 10. *Diseases of the Organs of Locomotion.*—Caries, necrosis, 9; arthritis, ostitis, periostitis, 5; others (curvature of spine), 1.

Order 11. *Diseases of the Integumentary System.*—Carbuncle, 3; ulcer, bed sores, 5; eczema, 11; pemphigus, 1.

Class VII.—Violence.

Violent deaths

Order 1. *Accident or Negligence.*—Fractures and contusions, 109; wounds *(a)* —; *(b)* cuts, 5; burns and scalds, 26; sunstroke, 5; poison, 9; bite of snake or insect, 1; drowning, 38; suffocation, 13; otherwise (blood poison, &c.), 5.

Order 2. *Homicide.*—Murder, 19; manslaughter, 2.

Order 3. *Suicide.*—Wounds—*(a)* gunshot, 5; *(b)* cut, stab, 7; poison, 18; drowning, 3; hanging, 12.

Order 4. *Execution.*—Judicial hanging, 4.

Order 5. *Violent Deaths not classed.*—Found drowned, 26; otherwise, 10.

Class VIII.—Ill-defined and not Specified Causes.

Dropsy, 12; atrophy, debility, inanition, 347; tumour, 9; abscess, 4; hæmorrhage, 5; other ill-defined and not specified causes, 20.

MALES, 3,063; FEMALES, 2,483; TOTAL, 5,546.

Classification of Fatal Diseases, and proportions per cent. of Deaths from each cause in the Country Districts of New South Wales—1887.

Classification of diseases—Country districts.

Class.	Causes of Death.	Under 5 Years.		Over 5 Years.		Total.	Proportion per cent.
		Male.	Female.	Male.	Female.		
I.	Specific Febrile, or Zymotic diseases........	327	331	227	253	1,138	14·40
II.	Parasitic diseases	14	10	11	8	43	·54
III.	Dietic diseases............	11	5	56	13	85	1·08
IV.	Constitutional diseases.	87	86	474	292	939	11·88
V.	Developmental diseases	121	102	374	200	797	10·09
VI.	Local diseases.............	764	623	1,275	856	3,518	44·52
VII.	Violence	68	51	611	101	831	10·52
VIII.	Ill-defined and not specified causes	215	207	78	51	551	6·97
	All causes.........	1,607	1,415	3,106	1,774	7,902	100·00

COUNTRY DISTRICTS.

Class I.—Specific Febrile, or Zymotic Diseases.

Zymotic diseases.

Order 1. *Miasmatic Diseases.*—Measles, 7 ; epidemic rose rash, 1 ; scarlet fever, 30 ; influenza, 17 ; whooping cough, 162 ; mumps, 3 ; diphtheria, 155 ; cerebro-spinal fever, 5 ; simple and ill-defined fever, 5 ; typhoid, enteric fever, 236.

Order 2. *Diarrhœal Diseases.*—Cholera, 41 ; diarrhœa, 291 ; dysentery, 83.

Order 3. *Malarial Diseases.*—Remittent fever, 9 ; ague, 4.

Order 4. *Zoogenous Diseases.*—None.

Order 5. *Venereal Diseases.*—Syphilis, 10 ; gonorrhœa, stricture of urethra, 9.

Order 6. *Septic Diseases.*—Phagedæna, 1 ; erysipelas, 23 ; pyæmia, septicæmia, 19 ; puerperal fever, 27.

Class II.—Parasitic Diseases.

Thrush, 23 ; hydatid disease, 18 ; worms, &c., 2.

Class III.—Dietic Diseases.

Starvation, want of breast milk, 30 ; intemperance—*(a)* chronic alcoholism, 46 ; *(b)* delirium tremens, 7 ; *(c)* opium-smoking, 2.

Class IV.—Constitutional Diseases.

Rheumatic fever, rheumatism of heart, 23 ; rheumatism, 18 ; gout, 5 ; rickets, 1 ; cancer, 211 ; tabes mesenterica, 110 ; tubercular meningitis (hydrocephalus), 54 ; phthisis, 464 ; other forms of tuberculosis, scrofula, &c., 21 ; purpura, hæmorrhagic diathesis, 7 ; anæmia, chlorosis, leucocythæmia, 10 ; diabetes millitus, 15.

Class V.—Developmental Diseases.

Premature birth, 180; atelectasis, 10; cyanosis, 14; spina bifida, 5; imperforate anus, 5; cleft palate, 1; other congenital defects, 8; old age, 574.

Class VI.—Local Diseases.

Local diseases.

Order 1. *Diseases of the Nervous System.*—Inflammation of the brain or its membranes, 87; apoplexy, 128; softening of the brain, 26; hemiplegia, brain paralysis, 117; paralysis agitans, 1; insanity, general paralysis of the insane, 44; epilepsy, 42; convulsions, 414; laryngismus stridulus, 1; idiopathic tetanus, 5; paraplegia, diseases of the spinal cord, 45; others, 76.

Order 2. *Diseases of the Organs of Special Sense.*—Otitis, otorrhœa, disease of the ear, 1; epistaxis, disease of the nose, 2; ophthalmia, disease of the eye, 1.

Order 3. *Diseases of the Circulatory System.*—Endocarditis, valvular disease, 72; pericarditis, 12; hypertrophy of heart, 2; anginæ pectoris, 10; syncope, 24; aneurism, 30; senile gangrene, 4; embolism, thrombosis, 4; phlebitis, 2; heart disease (undefined), 355.

Order 4. *Diseases of the Respiratory System.*—Laryngitis, 25; croup, 158; other diseases of larynx and trachea, 5; emphysema, asthma, 38; bronchitis, 378; pneumonia, 323; congestion of the lungs, 65; pleurisy, 31; lung disease (undefined), 34.

Order 5. *Diseases of the Digestive System.*—Stomatitis, 8; dentition, 132; sore throat, quinsy, 16; dyspepsia, 13; hæmatemesis, 4; melæna, 5; diseases of the stomach, 39; enteritis, 167; ulceration of intestines, 17; ileus, obstruction of intestine, 31; stricture, or strangulation of intestine, 3; intussusception, 7; hernia, 13; fistula, 1; peritonitis, 53; ascites, 8; gallstones, 3; cirrhosis of liver, 25; hepatitis, 20; jaundice, 23; other diseases of liver, 64; other diseases of the digestive system, 14.

Order 6. *Diseases of the Lymphatic System and Ductless Glands.*—Diseases of lymphatic system, 1; diseases of spleen, 3; Addison's disease, 1.

Order 7. *Diseases of the Urinary System.*—Acute nephritis, 22; Bright's disease, 60; uræmia, 12; suppression of urine, 5; calculus, 3; hæmaturia, 2; disease of bladder and prostate, 28; kidney disease (undefined), 15.

Order 8. *Diseases of the Organs of Generation.*—Ovarian disease, 4; diseases of uterus and vagina, 18; disorders of menstruation, 3; pelvic abscess, 2; diseases of testes, penis, scrotum, &c., 1.

Order 9. *Diseases of Parturition.*—Abortion, miscarriage, 7; puerperal mania, 1; puerperal convulsions, 9; placenta prævia, flooding, 20; other accidents of childbirth, 42.

Order 10. *Diseases of the Organs of Locomotion.*—Caries, necrosis, 10; arthritis, ostitis, periostitis, 2; others (curvature of spine, &c.), 4.

Order 11. *Diseases of the Integumentary System.*—Carbuncle, 1; phlegmon, cellulitis, 1; ulcer, bed sores, 2; eczema, 10; others, 1.

Class VII.—Violence.

Violent deaths.

Order 1. *Accident or Negligence.*—Fractures and contusions, 243; wounds (*a*) gunshot, 11; (*b*) cuts, 13; burns and scalds, 67; sunstroke, 19; lightning, 2; poison, 7; bite of snake or insect, 2; drowning, 190; suffocation, 116; otherwise (blood poison, umbilical hæmorrhage, chloroform, &c.), 22.

Order 2. *Homicide.*—Murder, 13; manslaughter, 7.

Order 3. *Suicide.* Wounds *(a)* gunshot, 17; *(b)* cut, stab, 8; poison, 10; drowning 18; hanging, 18; otherwise, 5.

Order 4. *Execution.*—None.

Order 5. *Violent Deaths not classed.*—Found drowned, 37; otherwise, 6.

Class VIII.—Ill-defined and not Specified Causes.

Dropsy, 52; atrophy, debility, inanition, 409; mortification, 1; tumour, 10; abscess, 6; hæmorrhage, 3; other ill-defined and not specified causes, 70.

MALES, 4,713; FEMALES, 3,189; TOTAL, 7,902.

Fatality of phthisis.

From the foregoing it will be seen that the number of deaths from phthisis in the Colony during 1887 was greater than from any other disease. The following are the principal causes of death arranged in order of fatality:—

	Number of deaths.
Phthisis	977
Accidents	903
Atrophy, debility (infants)	756
Old age	689
Convulsions	654
Heart disease (exclusive of pericarditis and aneurism)	634
Diarrhœa	609
Bronchitis	594
Pneumonia	517
Enteritis	438
Typhoid, enteric fever	427
Cancer	354
Premature birth	349
Liver diseases	261
Apoplexy	258
Dentition	253
Tabes mesenterica	227
Diphtheria	217
Inflammation of the brain	208
Croup	206
Whooping cough	205
Diseases of the urinary system (exclusive of Bright's disease)	174
Childbirth and puerperal fever	173
Endocarditis, valvular disease, and pericarditis	173
Paralysis	172
Bright's disease	135
Tubercular meningitis (hydrocephalus)	126
Congestion of the lungs	122
Suicides	121
Intemperance	105
Dysentery	101
Peritonitis	93
Malformations	90
Scarlet fever	74
Insanity	72
Epilepsy	72
Diseases of spinal cord	67
Dropsy	64
Found drowned	63
Tuberculosis, scrofula, &c.	62
Cholera	59
Aneurism	58
Asthma	57
Syphilis	53
Measles	51

Small-pox.

The 13 deaths from small-pox included in the Metropolitan register occurred at the Quarantine Station, at the north head of Port Jackson. Three of the victims were under 5 years of age, and all were from the passengers and crew of one steamer which was quarantined there some weeks.

Bulli disaster.

The violent deaths are very numerous, especially in the country. The catastrophe known as the Bulli Disaster occasioned the deaths of 81 men and boys. This was due to an explosion in a coal-mine at Bulli, about 45 miles south of Sydney. It sent quite a thrill throughout the whole community, and the public subscribed liberally not only in this but in some of the other colonies, notably in Victoria, for the bereaved families. The amount raised was £43,538.

Percentage of Deaths to total Deaths, and Rate of Mortality per Thousand persons living in New South Wales from the several Classes of Diseases.

Causes of Death.	1881.			1882.			1883.			1884.		
	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.
Specific Febrile, or Zymotic diseases	1,705	14·78	2·24	2,084	16·26	2·62	1,818	14·84	2·18	2,362	16·61	2·68
Parasitic diseases	48	·42	·06	54	·42	·07	51	·42	·06	66	·47	·08
Dietic diseases	222	1·92	·29	265	2·07	·33	172	1·40	·20	198	1·39	·22
Constitutional diseases	1,420	12·31	1·87	1,440	11·24	1·81	1,517	12·38	1·82	1,640	11·53	1·86
Developmental diseases	1,016	8·81	1·34	1,220	9·52	1·53	1.232	10·06	1·48	1,270	8·93	1·44
Local diseases	5,194	45·02	6·83	5,760	44·94	7·25	5,492	44·84	6·58	6,339	44·58	7·20
Violence	906	7·85	1·19	904	7·05	1·14	850	6·94	1·02	990	6·96	1·12
Ill-defined and not specified causes	1,025	8·89	1·35	1,089	8·50	1·37	1,117	9·12	1·34	1,355	9·53	1·54
	11,536	100·00	15·17	12,816	100·00	16·12	12,249	100·00	14·68	14,220	100·00	16·14

Causes of Death.	1885.			1886.			1887.		
	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.	Deaths.	Percentage.	Per 1,000 living.
Specific Febrile, or Zymotic diseases	2,382	15·59	2·56	2,315	15·87	2·36	1,978	14·71	1·93
Parasitic diseases	89	·58	·09	82	·56	·08	61	·45	·06
Dietic diseases	211	1·38	·23	198	1·36	·20	179	1·33	·17
Constitutional diseases	1,837	12·02	1·97	1,980	13·57	2·02	1,896	14·10	1·85
Developmental diseases	1,326	8·68	1·42	1,285	8·81	1·31	1,128	8·39	1·10
Local diseases	6,951	45·48	7·47	6,482	44·44	6·61	6,110	45·43	5·97
Violence	1,106	7·24	1·19	1,083	7·42	1·11	1,148	8·54	1·12
Ill-defined and not specified causes	1,380	9·03	1·48	1,162	7·97	1·19	948	7·05	·93
	15,282	100·00	16·41	14,587	100·00	14·88	13,448	100·00	13·15

SUICIDES.

Number and modes of suicides.

The number of suicides registered during the twelve years 1876-87, and the various modes adopted by the suicides for taking life, are :—

Year.	Shooting.		Cut, Stab, &c.		Poison.		Drowning.		Hanging.		Other Modes.*		All cases.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1876	2	...	12	2	7	6	3	1	12	...	2	...	38	9	47
1877	9	...	11	1	9	2	8	2	10	2	6	...	53	7	60
1878	...	...	8	...	5	...	2	...	9	...	1	...	25	...	25
1879	9	...	10	1	6	2	5	...	11	1	1	...	42	4	46
1880	11	...	9	3	15	4	3	3	12	5	3	...	53	15	68
1881	16	...	10	1	8	2	8	2	22	2	11	1	75	8	83
1882	6	...	10	...	8	5	5	4	11	2	4	...	44	11	55
1883	12	...	10	...	5	1	2	...	14	1	8	1	51	3	54
1884	17	...	12	1	9	6	8	3	14	4	6	1	66	15	81
1885	19	1	18	...	13	5	1	3	26	5	4	...	81	14	95
1886	24	1	12	...	14	6	3	3	23	3	6	...	82	13	95
1887	22	...	14	1	17	11	14	7	26	4	4	1	97	24	121
Total	147	2	136	10	116	50	62	28	190	29	56	4	707	123	830

* Falls from high places, charcoal fumes, &c.

Suicide by hanging claims the largest number of male victims for the twelve years ended 1887, viz., 190; but death by poisoning was most favoured by women.

Proportion of suicides to total deaths.

Number of Suicides and Proportion to Total Deaths.

Year.	Suicides by males.		Suicides by females.		Total Suicides.	
	No.	Per thousand of total deaths of males.	No.	Per thousand of total deaths of females.	No.	Per thousand deaths.
1876	38	5·84	9	1·92	47	4·02
1877	53	9·02	7	1·75	60	6·08
1878	25	3·98	...	....	25	2·32
1879	42	6·90	4	·97	46	4·51
1880	53	7·98	15	3·26	68	6·05
1881	75	11·11	8	1·67	83	7·19
1882	44	5·79	11	2·11	55	4·29
1883	51	7·17	3	·58	54	4·41
1884	66	7·93	15	2·54	81	5·70
1885	81	9·10	14	2·19	95	6·22
1886	82	9·61	13	2·13	95	6·51
1887	97	12·47	24	4·23	121	9·

ex-

36 and 37.

Proportion to population.

In proportion to the whole population, the yearly number of suicides is very light, and bears favourable comparison with the other colonies of the group. For the sake of clearness the rates in the following table are for every 100,000 of the population.

Year.	Number of suicides.	Per 100,000 of mean population.
1876	47	7·8
1877	60	9·5
1878	25	3·8
1879	46	6·7
1880	68	9·4
1881	83	10·9
1882	55	6·9
1883	54	6·5
1884	81	9·2
1885	95	10·2
1886	95	9·7
1887	121	11·8
	Mean............	8·5

Suicides in New South Wales compared with other colonies.

The rates of the other Australasian Colonies are for the most part higher than in New South Wales; though in respect to suicide, all the colonies, Tasmania alone excepted, compare somewhat unfavourably with the United Kingdom, where deaths by suicide average only 6·75 per 100,000.

Deaths from Suicide in the Australasian Colonies.

Colony.	Per 100,000 of mean population.
New South Wales	8·5
Tasmania	5·6
South Australia	8·8
New Zealand	8·9
Victoria	11·5
ensland	13·2

Specific diseas.
Parasitic
Dietic dis
Constituti
Developme
Local diseas.
Violence ....
Ill-defined and
causes ....

EXPECTATION OF LIFE.

Meaning of term.

The number of deaths at the various ages taken in connection with the numbers of persons living at each period of life, as disclosed by the census, forms the basis of a calculation which gives most interesting information, namely, the length of time that people of any age may expect to live. Not that the exact age to which any given individual will attain can be ascertained; but, by taking a number of persons at a given age, the *average* duration of life beyond that age may be estimated; and it is as certain that some will out-live the period of life set down in the table as it is that some will not survive to reach it.

Theory of expectation of life.

The table here presented is calculated for the three colonies of New South Wales, Victoria, and Queensland taken together, from statistics for the years 1870-81; but before drawing a comparison between the estimates therein contained and the results that have been obtained in other countries, it may be well to explain that the application of the theory of computing the average duration of human life after any given age is founded on two assumptions. "Of these the first is that the experience of the future will accord with that of the past; that is to say, that what ratio soever may have been found to exist in times past between the number surviving and the number dying in a given time, out of a specified number of individuals observed upon, the same ratio will be found to subsist in time to come between the number living and the number dying in the same space of time out of any given number of individuals similarly circumstanced with the others. And the second assumption is, that the individuals, the possibility of whose living and dying in any specified time may be in question, have all the same prospect of longevity with each other."* The phrase "expectation of life" has been taken exception to by some writers, on the ground that it is misleading to the uninitiated. The idea intended to be conveyed is the mean time which a number of persons at any age will live after that age. The late Dr. Farr, F.R.S., favoured the term "after-lifetime" as being a more correct expression, and in his report wrote as follows:—"The after-lifetime of men at the age of 30 is 33 years, by the English Life Table; 33 years is not the precise time probably that any one of that age will live, but the average time that a number of men of that age will live taken one with another. Age + after-lifetime = lifetime. At age 30 this is $30 + 33 = 63$, the average age which men now aged 30 will attain. At birth this is $0 + 40 = 40$; when lifetime and after-lifetime are the same thing. The lifetime simply, without the addition at a given age, will serve to express in one word what is often improperly called the "expectation of life at birth."

---

* Tables of Life Contingencies—Peter Gray, F.R.A.S., &c., pp. 36 and 37.

Experience of A.M.P. Society.

In addition to the expectation of life in the three colonies above-mentioned will be found a column showing the H.M. (healthy male) table of the Australian Mutual Provident Society. And while the after-lifetime at each age from 10 to 50 in the latter is higher than in the former, the gradation is much the same in each calculation. That one should give an estimate of greater longevity, after different ages, than the other is but natural, for in computing the table for the different colonies the total numbers of persons living and dying at each period of life are taken into consideration, whereas in the case of the H.M. table only selected lives, or such as would be accepted by an insurance society, form the basis of computation. Looking at the two tables, therefore, in their true light, the one is more an index of the correctness of the other than if the figures in both were identical.

Length of life in other countries.

By way of comparison several additional columns are here given. They are reprinted from Mulhall's Dictionary of Statistics, and show the expectation of life in England, and in various other countries.

Expectation of Life at Various Ages.

Age.	*New South Wales, Victoria, and Queensland.		H.M. A.M.P. Soc.	England.		Holland.		Belgium.		Sweden.		Saxony.	United States	Age.
	M.	F.		M.	F.	M.	F.	M.	F.	M.	F.			
Birth	46·5	49·6	...	41·9	45·2	31·4	36·4	...	...	41·3	45·6	....	....	Birth.
5 years	53·0	55·4	...	51·5	53·6	48·7	49·2	...	...	49·4	53·0	....	....	5
10 ,, ...	49·2	51·7	50·3	48·2	50·3	45·9	46·5	43·8	44·8	46·5	50·0	47·0	48·7	10
15 ,, ...	44·9	47·4	46·2	...	...	...	...	...	...	...	...	....	....	15
20 ,, ...	40·8	43·3	42·1	39·9	42·1	38·3	39·2	36·4	37·7	38·6	42·1	39·3	42·2	20
25 ,, ...	37·0	39·4	38·4	...	...	...	...	...	...	...	...	....	....	25
30 ,, ...	33·3	35·7	34·7	33·2	34·1	31·8	32·4	30·5	31·9	31·2	34·5	32·1	35·3	30
35 ,, ...	29·7	32·3	31·0	...	...	...	...	...	..	...	...	....	....	35
40 ,, ...	26·2	28·9	27·4	26·5	27·5	25·0	26·4	24·8	26·1	24·3	27·2	25·0	28·2	40
45 ,, ...	22·9	25·6	23·8	...	...	...	...	...	...	...	...	....	....	45
50 ,, ...	19·8	22·3	20·3	19·9	20·8	18·5	19·7	18·9	20·3	18·0	20·1	18·0	20·9	50
55 ,, ...	16·7	18·8	17·0	...	...	...	...	...	...	...	...	....	....	55
60 ,, ...	13·8	15·5	13·8	13·6	14·5	12·8	13·3	12·4	13·9	12·3	13·5	11·7	14·1	60
65 ,, ...	11·2	12·5	11·0	...	...	...	...	...	...	...	...	....	....	65
70 ,, ...	8·9	9·7	8·5	8·6	9·1	7·9	8·1	8·1	8·3	7·4	8·0	6·9	8·5	70
75 ,, ...	6·9	7·2	6·4	...	...	...	...	...	...	...	...	....	....	75
80 ,, ...	5·4	5·7	4·7	5·2	5·6	4·4	4·5	5·2	5·4	3·9	4·3	3·9	4·4	80
85 ,, ...	4·0	4·2	3·5	...	...	..	...	...	...	...	...	....	....	85
90 ,, ...	3·0	3·2	2·4	2·8	3·1	2·4	2·7	2·9	3·1	2·4	2·8	....	....	90

---

* *Vide* A. F. Burridge in Journal of Institute of Actuaries, vol. xxiv.

From this table it will be seen that the colonies stand very well when compared with other quarters of the globe. The average expectation of life of males and females at infancy, youth, and after the age of 50 years is higher than in any of the countries given.

VACCINATION.

Vaccination returns.

Vaccination is not compulsory in New South Wales, and is resorted to only in times of scare, when an epidemic of small-pox is thought imminent. It is easy to discover, from the returns of the Government vaccinators, the years when the community was threatened by the disease, as at such times the number of persons submitting themselves to vaccination largely increased. The number returned does not include those treated by private medical officers, by whom a large number of persons are vaccinated.

Persons Vaccinated by Government Medical Officers.

Year.	Sydney and Suburbs.	Country.	Total.	Year.	Sydney and Suburbs.	Country.	Total.
1876	1,269	3,276	4,545	1882	380	1,869	2,249
1877	5,308	11,943	17,251	1883	296	600	896
1878	532	3,038	3,570	1884	630	6,569	7,199
1879	657	4,981	5,638	1885	245	1,876	2,121
1880	460	4,699	5,159	1886	452	1,191	1,643
1881	8,738	51,481	60,219	1887	826	2,187	3,013

Age of persons vaccinated.

The number and ages of persons vaccinated by the Government vaccinators during 1887 will be found below:—

District.	Under 1 year.	From 1 to 5 years.	From 5 to 10 years.	10 years and upwards.	Total.
Sydney and suburbs	229	338	259	...	826
Country districts	261	1,015	889	22	2,187
Total	490	1,353	1,148	22	3,013

INSANITY.

The number of insane persons under treatment in hospitals is almost a fixed proportion of the total population, viz., 2·81 per thousand. Since 1871, the proportion has varied only 0·8 above, and 0·14 per thousand below the average stated. The hospitals for insane, under the immediate control of the Government, are five in number; four for ordinary insane, and one, at Parramatta, for criminals. Besides these, there is one licensed house.

Number of Insane under treatment.

The number of insane persons under treatment on the 31st December, 1887, under official cognizance, was 2,821, distributed as follows:—

Name of Hospital.	No. on Register.		
	Males.	Females.	Total.
Gladesville	500	278	778
Parramatta, free	634	335	969
Do. criminal	53	9	62
Callan Park	398	270	668
Newcastle	127	113	240
Cook's River	23	81	104
Total	1,735	1,086	2,821

These figures are 104 in excess of the total for 1886.

Proportion of insane a constant quantity.

The proportion of insane to the whole population, as already pointed out, is almost a constant quantity, as will be seen from the accompanying table, giving the number of persons in hospitals for insane at the close of each year from 1871–87.

Year ended 31 December.	No. of Insane.	Proportion of Insane to population per 1,000.	Year ended 31 December.	No. of Insane.	Proportion of Insane to population per 1,000.
1871	1,387	2·67	1881	2,218	2·84
1872	1,440	2·69	1882	2,307	2·84
1873	1,526	2·75	1883	2,403	2·87
1874	1,588	2·76	1884	2,524	2·89
1875	1,697	2·85	1885	2,643	2·89
1876	1,743	2·83	1886	2,717	2·77
1877	1,829	2·84	1887	2,821	2·76
1878	1,916	2·85			
1879	2,011	2·83			
1880	2,099	2·82		Mean...	2·81

Amount of insanity in England.

The amount of insanity in New South Wales and in England, compared with their respective populations, is about the same, though there appears to be a tendency in the latter country for the rate to increase. The greatest proportion of lunacy in these colonies is found in Victoria, and the lowest in South Australia and New Zealand.

Insanity in England and Australasian Colonies.

Country.	Insane persons per 1,000 of population.	Country.	Insane persons per 1,000 of population.
England	2·86	South Australia	2·29
New South Wales	2·76	New Zealand	2·29
Victoria	3·29	Tasmania	2·99
Queensland	2·64		

Death-rate of the Insane.

The percentage of deaths of insane persons is comparatively light. The following table has been computed on the basis of the average number of patients resident in hospitals for insane :—

Year.	Percentage of deaths of average number resident.			Year.	Percentage of deaths of average number resident.		
	Male.	Female.	Total.		Male.	Female.	Total.
1876	7·76	5·85	7·03	1882	6·76	5·61	6·32
1877	8·90	4·25	7·19	1883	9·71	4·98	6·64
1878	8 57	5·23	7·32	1884	8·18	6·22	7·43
1879	7·63	4·28	6·85	1885	7·61	4·97	6·39
1880	7·75	5·93	7·04	1886	7·54	6·37	7·08
1881	6·52	4·21	5·63	1887	6·64	7·03	6·79
				Mean ...	7·80	5·41	6·82

Increase of admissions in seasons of depression.

The number of persons admitted to the hospitals has varied a great deal. The effect of the continued commercial depression during the years 1885 and 1886 was experienced in the unusual number of idiotic and imbecile children, as well as demented people, found amongst the admissions, whose relatives would willingly have maintained them in more prosperous times.

Admissions to Hospitals for Insane and Proportion to Mean Population.

Year.	Admissions.	Proportion to population per 1,000.	Year.	Admissions.	Proportion to population per 1,000.
1871	340	0·66	1880	476	0·65
1872	303	0·57	1881	494	0·64
1873	342	0·62	1882	473	0·59
1874	330	0·58	1883	476	0·57
1875	356	0·60	1884	493	0 55
1876	360	0·59	1885	567	0·60
1877	457	0·72	1886	567	0·58
1878	424	0·64	1887	532	0·52
1879	440	0·63			
				Mean	0·60

Influx of Insane from abroad.

There is no law in force in this Colony to prevent the influx of insane persons; and, as a consequence, the splendid hospitals, which the bounty of the Government has established for the treatment of the insane, have been the means of burdening the community with the care of unfortunate persons belonging to other countries, where the treatment meted out to the insane is less generous or less scientific than in New South Wales. Were it not for this influx of insane from outside its boundaries, the rate for this Colony would be much lower than it is at present.

Birth-places of Patients in Hospitals for Insane, 1887.

Country.	No. of Patients.	Percentage to total.
New South Wales	935	28·52
Other British Colonies	111	3·39
England	801	24·43
Ireland	922	28·13
Scotland	160	4·88
France	19	0·58
Germany	81	2·47
China	78	2·38
Other Countries and not ascertained	171	5·22

Small proportion of Insane born in the Colony.

The number of persons under restraint, who are natives of this Colony, is only 28·52 per cent. of the total, whilst the native-born element of the total population is at least 64 per cent. Of the British-born patients, England contributes very nearly twice the number that her population in this country would warrant, and Ireland at least thrice the number.

Ages of Insane.

The ages of the insane are set forth in the following table, which shows that nearly one-fourth of the whole number are between 40 and 50 years of age. The table deals only with patients in hospitals for insane, and gives the percentage for 1887 at each period of life.

Ages of Insane.	No. of Patients.	Percentage of all ages	Percentage to total population at respective ages, Census 1881.
Under 5 years	3	·09	14·84
5 to 10	20	·61	13·22
10 ,, 15	47	1·43	11·81
15 ,, 20	108	3·30	10·11
20 ,, 30	539	16·44	18·03
30 ,, 40	750	22·88	12·95
40 ,, 50	799	24·37	9·46
50 ,, 60	574	17.51	5·27
60 ,, 70	290	8·85	2·96
70 ,, 80	128	3·91	1·09
80 years and upwards	20	·61	0·26

The major portion of the persons under restraint are single; amongst the married, females largely predominate, as also amongst the widowed. The condition as to marriage of patients in hospitals for the insane during 1887 is shown hereunder.

Conditions as regards marriage.

Condition as to Marriage.	Male.	Female.	Total.
Single	1,279	489	1,768
Married	417	562	979
Widowed	74	126	200
Unascertained	225	106	331

Intemperance as a cause of insanity.

It is popularly supposed that the principal cause of insanity is intemperance. The experience of this Colony, however, does not bear out this opinion. The amount of insanity directly due to drink, though certainly large, is not so considerable as that due to other causes. As far as the records of the hospitals show, the percentage of persons admitted suffering from insanity traceable to intemperance, is not more than 11·24 per cent. of the total admissions.

Persons insane from drink soon recover.

Persons suffering from mania induced by excess of drink recover comparatively quickly, and at any one time their number in the hospitals for the insane is scarcely more than 5·50 per cent. The most potent cause of insanity appears to be hereditary influence. How far this is productive of insanity in this Colony cannot be ascertained; for although the Inspector-General of the Insane, a high authority on lunacy, has ascertained that hereditary influence and congenital defect can be credited with only 10·61 per cent. of the total insanity, this percentage gives no idea of the actual amount of hereditary insanity in the Colony. Of the large number of patients the causes of whose insanity is unknown, it is believed that in most instances the insanity is due to hereditary influence, and even in those cases where the primary cause of insanity has been ascertained, there is strong presumption that many of the patients have inherited an insane neurosis.

Insane neurosis.

Causation of Insanity.

Cause of Insanity.	Percentage of male insanity.	Percentage of female insanity.	Percentage of total insanity.	
Moral :—				
Domestic trouble (including loss of relatives and friends)	0·92	6·15	2·84	14·23
Adverse circumstances (including business anxiety and pecuniary difficulties)	2·84	0·21	2·13	
Mental anxiety and "worry" (not included under above two heads), and overwork	3·10	3·64	3·30	
Religious excitement	2·51	4·10	3·09	
Love affairs (including seduction)	0·39	1·03	0·62	
Fright and nervous attack	...	1·48	0·54	
Isolation	1·65	1·14	1·46	
Nostalgia...........................	0·33	0 11	0·25	
Physical :—				
Intemperance in drink	13·14	7·97	11·24	53·14
Do (sexual)	0·16	0·11	0·08	
Venereal disease	0·13	0·23	0·21	
Self-abuse	2·77	0·11	1·79	
Sunstroke	3·76	1·25	2·84	
Accident or injury	2·77	0·34	1·88	
Pregnancy	...	0·79	0·29	
Parturition and the puerperal state........................	...	8·31	3·05	
Lactation............................	...	0·79	0·29	
Uterine and Ovarian disorders..	...	1·03	0·38	
Puberty	...	0·57	0·21	
Change of life	...	1·14	0·43	
Fevers	0·72	0·03	0·83	
Privation and overwork	2·18	0·34	1·50	
Phthisis	0·13	0·23	0·21	
Epilepsy	4·75	3·98	4·64	
Disease of skull and brain	3·10	1·03	2·34	
Old age	1·05	0·79	0·96	
Other bodily diseases and disorders	1·98	2·05	2·00	
Excess of opium	0·26	...	0·16	
Previous attacks	4·16	5·35	4·76	
Hereditary influence ascertained..	5·28	6·72	5·81	
Congenital defect ascertained......	4·81	4·78	4·80	
Other ascertained causes	2·57	2·16	2·44	
Unknown	34·54	32·04	32·63	32·63

average weekly cost of maintaining insane patients in the ls is about 12s. 4½d. per week, of which the State pays d., the balance being made up by contributions from the of the patients themselves, or by their friends. The sub-table shows the average weekly cost per head, and average contributions from 1879–1887.

Cost of patients.

ge Weekly Cost of Patients in Hospitals for the Insane.

r.	Cost per head to State.	Contribution per head from private sources.	Total weekly cost per head.
	s. d.	s. d.	s. d.
9	12 1	0 7¼	12 8¼
0	10 8¾	1 0¼	11 9
1	10 8¼	1 2¼	11 10½
2	12 0¼	1 2¼	13 2½
3	11 5⅝	1 0¼	12 5⅞
4	10 11⅞	1 3¼	12 3⅛
5	11 3½	1 4½	12 8
6	11 1¾	1 5½	12 7¼
7	10 6	1 5½	11 11½

inal lunatics are confined at Parramatta, and usually num-ut 60 persons. The offences for which they are detained are t the blackest in the calendar, as will be seen from the elow. The offences for which the criminal insane were d during 1887 were as follows:—

Criminal Insane

Criminal Insanity.

Crimes committed by the Insane.	Number of insane.		
	Males.	Females.	Total.
Murder	20	3	23
Attempt to murder	2	......	2
Manslaughter	2	......	2
Rape	2	......	2
Indecent assault	2	......	2
Unnatural offence	2	......	2
Cutting and wounding, shooting with intent, &c.	11	3	14
Burglary and house-breaking	3	......	3
Sheep and horse stealing	3	......	3
Larceny and petty thefts	3	......	3
Arson and malicious burning	1	1	2
Attempting suicide	......	1	1
Vagrancy	1	1	2
Piracy	1	......	1
Total	53	9	62

PART XIV.

Employment.

TO obtain even a fair approximation of the number of persons engaged in various walks of life in this Colony is a work of no small difficulty, the information which might serve as a basis for a calculation of this kind being of a very meagre and incomplete description. The result of an attempt at solving this question must, therefore, be considered as only approximate, for until another census of the population of the Colony is taken, anything like an exact knowledge of the occupations of the people cannot be arrived at. With the data in hand, however, an approximation has been compiled, which will be sufficient, at any rate, to give an idea of the manner in which the people of New South Wales are occupied.

Imperfect data.

Employment of Males.

During the year, 1887, the number of males in the Colony over the age of 16 years was about 354,000. Of these 337,000 were supporting themselves and their dependants, and engaged in employments specified below; 7,500 were a burthen to the general community, being inmates of gaols, asylums, or public institutions, and 9,500 were either non-workers, or engaged for only part of the year in the various branches of manual labour. Of the number of workers given above 152,364 were engaged in what are commonly termed works of production, and thus distributed :—

Agriculture	72,289
Pastoral pursuits, including slaughtering for food	21,040
Mining	18,399
Manufactures	40,636

In trade and commerce, that is, in the business of buying or selling, and in pursuits incidental thereto, and in maritime pursuits, the numbers were—

Trade and commerce	27,500
Maritime pursuits	7,700

Of those who were engaged in laborious occupations other than those just given, the following are the approximate numbers:—

Skilled mechanics in building trades	26,000
Unskilled labourers	54,500
Personal attendance	28,000

Besides the above, there were—

Professional men	9,200
Government and municipal employés	24,000
Military and police	2,000

and 5,642 engaged in various pursuits, not included under any of the heads above given, and chiefly in light manual occupations.

Employment of Females.

The number of females above the age of 16 years was, in 1887, approximately 278,250. Of this number, 68,380, or about 25 per cent., were wage-earners, the great majority being engaged in domestic service, as will appear in the following table:—

Female Wage-earners.

Agriculture	2,600
Employed in manufactories, and needlewomen	10,900
Professional work	5,400
Trade	4,500
Domestic work and attendance	35,600
Otherwise engaged	9,380
	68,380

Of the remaining number of females above the age of 16, 207,470 were engaged in various household duties, without wages, and 2,400 were dependent on the state, being inmates of asylums, gaols, and similar institutions.

Percentage of Workers.

The total number of male workers represents 32·4 per cent. of the whole community, and the female 6·7 per cent.; the total of all earners was 399,644, or 39 per cent. of the population. Some account of the persons engaged in agriculture, mining, and pastoral pursuits, as well as the nature of their avocations, will be found elsewhere in this volume. There is, therefore, no need to discuss these pursuits further in this place.

MANUFACTORIES.

Manufactories of New South Wales.

Although New South Wales cannot be considered an important manufacturing country, this source of national wealth has by no means been neglected, and in 1886, the last year available for purposes of comparison, the number of persons employed in manufacturing pursuits in New South Wales was larger than in any other colony of the group. During the year 1887 there were 3,508 manufactories or works of various descriptions, employing altogether a total of 44,360 hands, of whom 40,636 were males, and 3,724 females. These works had machinery in operation developing a total of 26,152 horse-power, and valued at £5,740,382.

Plan adopted in compiling statistics.

In all the Australian colonies most manufacturing industries are in their infancy, and are so small in comparison with the large establishments of other countries, that the practice which obtains of enumerating the smaller class works would appear open to question. Unless, however, the beginnings of the various industries are now noted it will be impossible hereafter to trace their progress. No works which are simply retail establishments, have been included in any of the following tables; on the contrary, steam or other power is employed in the majority of cases. Of the works which do not use power, only such have been enumerated as were in a fairly large way of business, or were of a special character, regarding which it was desirable to have statistics for future reference. Clothing factories employing less than ten hands, and boot factories with less than six hands, have not been taken into account.

Average hands per factory.

The average number of hands employed in each establishment was 12·6; the average for the metropolitan district being 17·7, and for the country districts 9·1. Compared with the scale on which manufactories are worked in the older countries of the world, these averages will appear very small; but should evoke no surprise when the nature of the works is considered, and the sparseness of the population throughout a large portion of the Colony. The following is a complete list of the works in operation during the year:—

Manufactories Classified, with the Number of Hands, Power, and Value of Plant employed during the year, 1887.

Description of Manufactory or Work.	Number of Works.	Hands employed.			Power of Plant or Machinery	Value of Plant or Machinery.
		Males.	Females.	Total.		
					Horse-power.	£
Agricultural and Dairy Implements	36	204	......	204	88	14,770
Raw Material, the Production of Pastoral Pursuits—						
Boiling-down and glue	32	121	......	121	104	13,675
Bone-dust and manure	14	41	......	41	118	13,060
Grease	2	11	......	11	4	500
Tanneries	110	687	2	689	395	58,956
Wool-pressing	6	114	......	114	249	42,900
Wool-washing and Fellmongering	67	1,252	......	1,252	690	93,830
	231	2,226	2	2,228	1,560	222,421
Connected with Food and Drink or the Preparation thereof—						
Aerated Waters	224	1,103	4	1,107	397	127,255
Beer, ale, stout (including bottling works)	75	804	......	804	715	164,898
Bread and biscuits (steam)	7	257	91	348	59	49,920
Butter and cheese	205	767	298	1,065	222	28,864
Coffee and spice	7	124	7	131	86	17,000
Condiments	4	29	8	37	8	1,170
Confectionery (wholesale)	23	298	80	378	71	22,820
Flour	128	591	8	599	2,781	336,800
Fruit-canning	3	75	80	155	16	3,400
Ice and refrigerating	11	231	25	256	305	59.850
Jam	5	177	16	193	16	6,300
Maizena and oatmeal	3	23	7	30	58	9,000
Meat-curing	9	31	......	31	15	1,755
Meat-preserving	6	479	......	479	360	30,550
Self-raising flour and baking powder	4	25	1	26	3	1,200
Sugar (refined)	1	200	......	200	200	50,000
Sugar (raw)	78	2,645	1	2,646	2,236	195,300
Spirits (rum)	1	20	......	20	30	6,100
Vinegar	3	38	......	38	5	800
	797	7,917	626	8,543	7,583	1,112,982

Description of Manufactory or Work.	Number of Works.	Hands employed.			Power of Plant or Machinery	Value of Plant or Machinery.
		Males.	Females.	Total.		
					Horse-power.	£
Clothing and Textile Fabrics—						
Boots and shoes	60	1,837	436	2,273	151	41,855
Clothing	65	1,079	1,826	2,905	1	6,485
Furriers	2	5	1	6	......	600
Hats and caps	15	101	46	147	......	2,315
Oilskin clothing	2	10	30	40	......	50
Shirts	2	1	25	26	......	......
Woollen cloth	5	101	71	172	140	25,000
	151	3,134	2,435	5,569	292	76,305
Building Materials—						
Bricks	282	2,230	......	2,230	1,237	177,554
Joinery	75	980	......	980	665	79,379
Lime	31	239	......	239	78	11,895
Modelling and patterns	13	108	......	108	......	2,380
Monumental	37	221	......	221	16	4,715
Paint and varnish	5	38	2	40	39	5,940
Pottery	17	244	1	245	120	15,500
Saw-mills	322	3,252	2	3,254	4,894	394,485
Stone-crushing	11	312	......	312	238	63,700
Stone-dressing	2	35	......	35	42	7,500
Stone quarries	49	624	......	624	18	19,152
	844	8,283	5	8,288	7,347	782,200
Metal Works, &c.—						
Galvanized iron and plumbing	40	467	......	467	29	20,380
Iron and brass foundries	86	1,013	......	1,013	549	125,450
Ironworkers (other)	24	652	......	652	172	32,580
Machinery and engineering	69	2,212	......	2,212	1,962	421,770
Railway workshops and carriage factories	11	1,286	......	1,286	390	708,606
Smelting pyrites, cobalt, &c.	15	560	......	560	252	142,461
Tinware	43	269	......	269	1	8,780
Wire	7	135	......	135	23	29,180
	295	6,594	......	6,594	3,478	1,489,207
Ship-building, Repairing, &c.—						
Dry Docks, Floating Docks, and Slips	11	204	......	204	265	285,600
Masts and blocks	2	6	......	6	4	150
Sails, tarpaulins, &c.	20	96	2	98	4	4,775
Ship and boat building, &c.	51	483	......	483	107	32,577
	84	789	2	791	380	323,102

Description of Manufactory or Work.	Number of Works.	Hands employed.			Power of Plant or Machinery	Value of Plant or Machinery.
		Males.	Females.	Total.		
					Horse-power.	£
Furniture, Bedding, &c.—						
Bedding	15	108	35	143	38	7,280
Curled hair and flock	10	37	5	42	46	3,400
Furniture	101	991	20	1,011	178	31,412
Picture-frames	11	37	1	38	......	2,330
Show-cases and shop-fittings	2	21	......	21	......	350
Window-blinds	5	55	1	56	......	240
	144	1,249	62	1,311	262	45,012
Books, Paper, Printing, and Engraving—						
Account books, &c.	27	261	223	484	3	1,737
Engraving, &c.	7	34	......	34	......	1,385
Paper	1	42	12	54	200	26,000
Paper bags and boxes	3	16	45	61	4	3,600
Printing and lithographic printing	149	3,053	64	3,017	506	431,352
Printing and other inks	2	5	......	5	10	900
Type	2	18	......	18	......	1,600
	191	3,427	344	3,771	723	466,574
Gold Workers and Philosophical Instrument Makers—						
Electroplating	2	10	......	10	3	900
Jewellery	23	159	1	160	......	2,575
Mint	1	24	......	24	30	45,000
Philosophical instruments	7	34	2	36	4	2,590
	33	227	3	230	37	51,065
Carriage Works—						
Coaches and waggons	202	1,811	3	1,814	171	93,479
Chemical Works—						
Chemicals	4	62	11	73	47	18,700
Patent medicines, &c.	3	8	3	11	10	1,430
	7	70	14	84	57	20,130
Glass—						
Glass	4	72	......	72	14	11,100

of Manufactory or Work.	Number of Works.	Hands employed.			Power of Plant or Machinery	Value of Plant or Machinery.
		Males.	Females.	Total.		
					Horse-power.	£
s—						
orks and irrigation..	18	101	1	102	1,306	196,400
d Harness—						
and harness	76	569	2	571	......	13,058
addle-trees, &c.	2	3	......	3	8	600
	78	572	2	574	8	13,658
Asphalting— wood, and tar pave-	9	67	......	67	65	33,730
us—						
pping	4	18	......	18	17	695
....	10	64	......	64	......	1,720
millet)	4	37	2	39	......	3,102
....	5	42	2	44	......	3,150
crushed corn.........	135	529	......	529	665	30,965
....	3	39	......	39	30	6,000
e	12	121	......	121	10	1,320
... .	5	16	7	23	6	970
ight	7	23	......	23	123	15,200
....	25	1,131	......	1,131	436	509.645
oil	3	299	......	299	330	32,000
and barrows...........	4	12	......	12	......	285
s (steam)	5	130	42	172	48	3,375
cases.................. ...	6	15	......	15	32	2,275
....	8	118	.. ...	118	101	14,690
s (firewood)............	68	334	.....	334	486	13,675
ndles, soap-powder, la crystals	52	356	11	367	347	59,910
cigars, &c.	13	506	156	662	117	83,650
ot included above...	15	96	10	106	33	5,120
	384	3,886	230	4,116	2,781	788,247
neral total	3,508	40,636	3,724	44,360	26,152	5,740,382

Waterworks not included.

more than one kind of work is carried on in one establishment, it has frequently been f distinguish the number of hands, power, and value of plant engaged in the various indus the total has been credited to the principal industry, hence the small number of hand r this and some other heads.

Large number of works for treating raw produce.

It will be seen that a large proportion of the establishments included in the foregoing list are connected with the preparation of food, or raw produce. This will probably appear more clearly from the following summary :—

Classification of Manufactories and Works.	Number of Establishments.	Hands Employed.			Horse-power.
		Males.	Females	Total.	
Treating raw material, the product of pastoral pursuits	231	2,226	2	2,228	1,560
Connected with food and drink or the preparation thereof	797	7,917	626	8,543	7,583
Clothing and textile fabrics	152	3,138	2,439	5,577	292
Building materials	853	8,350	5	8,355	7,412
Metal works, implements, machinery and engineering, railway carriages	331	6,797	......	6,797	3,566
Docks, slips, ship-building, and sail-making	84	789	2	791	380
Furniture, bedding, &c.	145	1,261	62	1,323	262
Paper, printing, binding, engraving, &c.	191	3,427	344	3,771	723
Vehicles, harness, saddlery	280	2,383	5	2,388	179
Fuel and light	103	1,787	......	1,787	1,405
Other works	341	2,561	239	2,800	2,790
Total	3,508	40,636	3,724	44,360	26,152

Progress of manufactures.

There has, however, been fair progress in other directions, and, as will be seen from a subsequent table, the growth of the manufacturing power has been in keeping with the general progress observable in other departments of industry. The number of persons dependent for their livelihood on the manufacturing interest may be estimated at about 175,000, or one-sixth of the whole population of the Colony.

In the following table the gradual progress of the manufacturing industry of the Colony during the last decade may be readily traced. It will be noticed that the total number of works of all kinds has risen in the short period embraced by the table from 2,602 in 1877, to 3,508 in 1886, or nearly 35 per cent., while the number of hands employed has advanced from 24,902 to 44,360 or nearly 78 per cent. during ten years.

Year.	Metropolitan Electorates.				Country Electorates.				General Total.			
	No. of Manufactories, &c.	No. of Hands employed.			No. of Manufactories, &c.	No. of Hands employed.			No. of Manufactories, &c.	No. of Hands employed.		
		Male.	Female.	Total.		Male.	Female.	Total.		Male.	Female.	Total.
1877	810	10,488	3,070	13,558	1,792	11,227	147	11,374	2,602	21,715	3,217	24,932
1878	867	12,184	3,052	15,236	1,856	10,568	187	10,755	2,723	22,752	3,239	25,991
1879	905	12,523	2,481	15,004	1,756	10,492	218	10,710	2,661	23,015	2,699	25,714
1880	971	15,043	1,643	16,686	1,816	11,463	185	11,648	2,787	26,506	1,828	28,334
1881	995	15,671	2,222	17,893	1,985	13,227	191	13,418	2,980	28,898	2,413	31,311
1882	1,023	17,062	1,903	18,965	2,180	15,012	210	15,222	3,203	32,074	2,113	34,187
1883	1,049	17,872	1,971	19,843	2,217	14,974	425	15,399	3,266	32,846	2,396	35,242
1884	1,137	19,969	2,257	22,226	2,361	17,144	232	17,376	3,498	37,113	2,489	39,602
1885	1,176	20,640	3,258	23,898	2,436	18,685	246	18,931	3,612	39,325	3,504	42,829
1886	1,463	23,361	3,001	26,362	2,231	18,928	493	19,421	3,694	42,289	3,494	45,783
1887	1,434	22,264	3,126	25,390	2,074	18,372	598	18,970	3,508	40,636	3,724	44,360

The figures for 1887 show a decline both in the number of works and the male hands employed, a circumstance due chiefly to the depression which has so long prevailed, and which has hardly yet been dissipated.

Manufactories in various colonies.

Estimated by the number of works and the hands employed in manufacturing, New South Wales stood during 1886 at the head of all the colonies of the group, as will be seen from the following table compiled from statements obtained from official sources. The figures for Tasmania have been omitted, as the returns for that colony embrace many establishments not included in those of the other colonies. For the year 1887 the figures for all the colonies have not been issued; it will, however, in all probability be found that New South Wales, although having a larger number of works, has fewer hands than Victoria for that year. The following are the figures for 1886:—

Colony.	Manufactories and Works—1886-87.	Hands employed.
New South Wales	3,694	45,783
Victoria	2,770	45,773
Queensland	1,125	....
South Australia	731	9,946
Western Australia	169	....
New Zealand	1,964	22,434

Decrease in females employed.

A satisfactory feature of the progress exhibited is that the number of women employed in factories and works has not increased at the same rapid rate as male employés. In 1887, the number of females employed was 3,217, while in 1887 it had risen to 3,724, showing an increase of only 507 female hands in ten years. An examination of the following table will show that this increase has been chiefly confined to steam-washing works and tobacco and boot factories, whilst in the manufacture of clothing fewer women are now employed than was the case ten years ago.

Nature of Industry.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Account Book, and other Manufactories	71	64	68	64	84	83	131	144	177	186	223
Bakeries (steam)	......	......	5	11	14	26	33	53	62	79	91
Bedding Manufactories..	23	45	22	31	35	43	60	52	60	45	35
Boot ,, ..	305	299	373	341	377	341	377	418	433	409	436
Clothing ,, ..	2,081	2,138	1,487	830	1,260	994	1,071	1,112	1,794	1,686	1,826
Confectionery ,, ..	64	79	74	33	44	34	47	45	60	69	80
Gingerbeer, Aerated Waters, &c.	10	5	11	6	14	14	189	12	23	7	4
Hat Manufactories	70	24	30	26	12	23	24	45	55	45	46
Jam ,, ...	4	10	13	10	5	8	12	23	23	52	15
Printing Works	29	30	54	19	9	......	24	36	76	31	64
Paper-box, &c.	4	6	7	10	22	4	2	19	24	37	45
Shirt Manufactories......	344	309	314	175	166	96	......	50	100	26	25
Soap-powder ,, ...	12	23	14	22	23	39	30	28	26	11	11
Steam Laundries	22	3	4	21	41	48	79	85	84	127	42
Tobacco Manufactories..	62	62	41	56	50	86	90	155	257	144	156
Woollen Cloth ,, ..	51	53	119	100	157	119	112	137	189	78	71
Other Industries, not enumerated above ...	65	89	63	73	100	155	115	75	61	462	559
Total..............	3,217	3,239	2,699	1,828	2,413	2,113	2,396	2,489	3,504	3,494	3,724

Ample field for establishing new factories.

As regards the future, however, a vast field is open for the development of manufactures in New South Wales. Producing, as it does, the raw material of various kinds necessary for supplying the primary wants of civilization, it is evident that the Colony will not long continue the wasteful process of exporting the raw article and taking it back again in the shape of manufactured goods. The one great cause which has hitherto operated to prevent the larger development of manufactures is the abundant employment which has easily been found for labour and capital in other directions, such as mining, agricultural, and pastoral pursuits. It cannot be anticipated that these fields for investment will always remain open, and capital must then seek other channels.

Manufacture of woollen cloth.

The manufacture of wool into cloth and other articles seems specially adapted to the circumstances of New South Wales as a wool-growing country; but, as will afterwards appear, this industry has made no progress. The following table shows the number of woollen-mills in operation, the number of employés, and the quantity of cloth manufactured :—

Woollen Mills.

Year	Number of Woollen-mills.	Hands Employed.			Quantity of Woollen Cloth Manufactured.
		Male.	Female.	Total.	
					Yards.
1877	8	156	51	207	421,452
1878	9	145	53	198	480,037
1879	9	157	119	276	415,400
1880	8	114	100	214	353,100
1881	5	178	157	335	358,000
1882	8	266	119	385	319,225
1883	9	260	112	372	352,000
1884	7	175	137	312	305,000
1885	6	134	189	323	337,750
1886	8*	104	78	182	324,788
1887	5	101	71	172	348,000

* Two mills not working.

Number of Woollen Mills decreased.

From these figures it will be noticed that the number of woollen-mills in operation has not increased, and that those now at work provide employment for 172 persons only. During the years 1882 and 1883 more than twice this number of hands were employed, and even at the beginning of the last decade 207 persons were provided with work in this branch of industry. The quantity of cloth manufactured, as a necessary consequence, has also considerably decreased. When, however, it is remembered that the export of wool reached no less a sum than £8,911,155, in 1887, and that wearing apparel to the amount of £895,912; blankets, £41,065, and vast quantities of other woollen goods, were imported during the same year, the full significance of the small number of persons engaged in the manufacture of woollen cloth will be at once perceived.

Manufacture of boots.

On the other hand, the manufacture of boots and shoes exhibits a slight progress, as may be seen from the table below.

Boot Factories.

Year.	Number of boot factories.	Hands Employed.		
		Males.	Females.	Total.
1877	104	1,610	305	1,915
1878	71	1,584	299	1,883
1879	71	1,750	373	2,123
1880	75	2,038	341	2,379
1881	71	1,849	377	2,226
1882	62	1,695	341	2,036
1883	61	1,748	377	2,125
1884	68	1,871	418	2,289
1885	65	1,672	433	2,105
1886	68	1,856	416	2,272
1887	60	1,837	436	2,273

From the above figures it will be noticed that although there is a fair increase in the number of hands—which from 1,915 in 1877 had risen to 2,273 in 1887—yet the number of establishments has considerably decreased. This would indicate a tendency for large factories to supersede small works, and drive the latter out of competition in this particular branch of manufacture. The average number of hands employed in each factory has risen from 18·4 in 1877 to 37·9 in 1887. The number of pairs of boots made during the year was 3,418,612.

Prospects of iron trade.

What should, in time, form another great staple industry of Australia is undoubtedly the iron trade. Every advantage possessed by the great iron and machinery producing countries of the world—such as England and Belgium—is also present here. Not only are iron and coal deposited in abundance, and in positions easily accessible and readily worked, but, as pointed out on page 88, the local iron ore is exceedingly rich. Scarcely any progress, however, has been made in iron smelting, and nearly the whole stock of pig and wrought iron required for the local manufactories is imported. The other descriptions of metal works, both for smelting and manufacturing, are in a more forward state. Works for the treatment of metal in 1877 numbered 189, in which were engaged 3,653 persons, while in 1887 the number of works had increased to 295, and the hands employed to 6,594.

Preparation of raw materials.

As regards the preparation of raw materials, the products of pastoral pursuits, the rate of increase has been not a little affected by the seasons, so that during the ten years under review, under the heads of boiling-down, fellmongering, tanning, and woolwashing, the number of hands employed has only increased from 2,147 in 1877 to 2,228 in 1887, while that of the works has fallen from 276 in 1877 to 231 in 1887.

Breweries.

Brewing and the manufacture of raw and refined sugar are two industries which have increased during the last decennial period, and there can be no doubt that these branches of manufacture will further develop in the future. As regards the former, in 1877, there were 38 breweries and bottlers of ale and porter in the Colony employing 456 hands, while in 1887 the number had risen to 75 and 804 respectively. The quantity of ale and beer imported from abroad during 1887 reached a value of £382,843 not a very large amount considering that £291,305 of it was for beer in bottle, which the colonial breweries have, so far, not attempted to produce on any extensive scale. The following table illustrates the position of the brewing and bottling industry and its progress during the last seven years :—

Beer imported.

Breweries.

Year.	Number of Breweries and Bottling Establishments.	Hands Employed.	Quantity manufactured, Ale, Beer, &c.
			Gallons.
1881	50	637	*
1882	56	699	*
1883	59	747	*
1884	60	788	*
1885	70	805	*11,000,000
1886	74	987	*10,000,000
1887	75	804	9,720,000

* Only approximately ascertained.

Soap and candles, which may be reckoned a purely colonial production, seeing that tallow is one of our staple products, experienced a satisfactory advance during the decade. The number of factories in existence in 1877 was 36, turning out 92,958 cwt. of soap and 4,133,038 lb. of candles. The production of soap had increased to 190,060 cwt., while that of candles fell to 2,442,960 lb. in 1887. The value of the plant employed in the latter year was £89,745, and the steam developed was equivalent to 367 horse-power. The apparent decrease observable in the quantity of candles manufactured is due to a change in the

Soap and candles.

class of candles made, the common tallow candle being now almost entirely superseded by the stearine.

Soap and Candle Manufactories.

Year.	Number of Soap and Candle Factories.	Hands Employed.	Quantities Manufactured.	
			Soap.	Candles.
			cwt.	lb.
1877	36	173	92,958	4,133,808
1878	34	180	77,655	3,951,696
1879	34	169	64,524	1,198,736
1880	38	203	114,118	923,776
1881	38	232	106,962	1,165,808
1882	40	263	112,513	3,066,224
1883	38	220	121,794	2,807,728
1884	34	204	131,244	2,759,680
1885	40	223	138,849	1,683,360
1886	46	321	155,430	2,199,282
1887	52	367	190,060	2,442,960

Saw-mills.

The number of persons employed in the various timber districts, in saw-mills, &c., has also increased at a good ratio during the last ten years. The number of establishments in 1878 was 228, employing a total number of 2,077 persons, while in 1887 there were 322 mills, and the number of hands employed was 3,254. The value of plant in 1886 was £394,485, the horse-power 4,894 while the quantity of timber sawn was estimated at 125 million feet 1-inch thick.

Saw-mills.

Year.	Number of Saw-mills.	Hands employed.	Year.	Number of Saw-mills.	Hands employed.
1878	228	2,077	1883	370	3,318
1879	232	2,072	1884	376	3,477
1880	243	2,458	1885	415	3,783
1881	280	2,382	1886	323	3,284
1882	334	3,013	1887	322	3,254

Sugar-growing

Sugar-growing is rapidly becoming an important industry. The number of works in existence in 1877 was 50, of which 24 used steam-power, whilst 26 were worked by cattle, and the number of

Number of sugar mills.

workmen employed was 1,065. These increased, in the years 1884 and 1885, to 86 steam-mills and 19 worked by cattle, whilst the number of men employed, and the quantity of sugar and molasses turned out, correspondingly increased. A large number of small mills have been closed since 1877, so that in 1887 the figures had been reduced to 57 steam, and only 7 mills worked by cattle, although the number of men employed had considerably increased, being 2,646, as against 1,065, in 1877, and the quantity of sugar manufactured had risen to 450,000 cwt., and 880,000 gallons of molasses, as against 93,960 cwt. of sugar, and 273,480 gallons of molasses in 1877. Large quantities of molasses are allowed to run to waste, not being required for distillation, and there is at present no other use to which this product could be put. The very low price of sugar has materially interfered with this industry of late years; nevertheless 1887 saw a larger output of raw sugar than any previous year. The following table gives the particulars of the sugar-growing industry for the last eleven years :—

Sugar Mills.

Year.	Sugar Mills.		Horse-power.		Quantity of Sugar Manufactured.	Quantity of Molasses Manufactured.	*Hands Employed.
	Worked by Steam.	Worked by Cattle.	Steam.	Cattle.			
					cwt.	gallons.	
1877	24	26	503	108	150,744	345,543	1,065
1878	36	23	627	119	163,203	532,825	1,158
1879	44	21	637	185	153,833	440,506	1,432
1880	50	15	1,601	76	146,003	269,092	2,183
1881	59	17	1,432	63	159,048	354,402	1,665
1882	70	16	978	49	270,000	560,000	1,039
1883	79	14	2,651	44	280,000	580,000	1,285
1884	86	12	2,855	50	230,000	450,000	2,190
1885	83	19	2,598	32	369,280	635,000	2,634
1886	57	7	2,531	21	275,000	507,000	2,259
1887	57	7	2,210	26	450,000	880,000	2,646

* Includes hands employed for only portion of the year.

Sugar refineries.

The number of establishments for refining the raw sugar was only two in 1885; and during 1886 one of these was closed. The quantity of refined sugar melted has varied greatly from year to year, but was greater in 1887 than in any former year. The value of the plant, as estimated in the latter year, was £160,000.

Sugar Refineries.

Year.	Sugar Refineries.	Number of Hands employed.	Quantity of Sugar melted.
			cwt.
1877	2	165	259,650
1878	2	153	324,480
1879	2	181	388,480
1880	2	166	414,400
1881	2	222	514,400
1882	2	235	470,000
1883	2	214	468,000
1884	2	172	370,000
1885	2	224	384,000
1886	2	214	510,000
1887	1	200	562,300

Tendency to separate sugar-growing and refining.

The general tendency, observable in almost all parts of the world where this industry is carried on, to concentrate the work in large and central establishments, is also apparent in New South Wales. In the older sugar-growing countries of the West Indies, Mauritius, and India, small mills are rapidly disappearing to make room for large central establishments, where business is strictly confined to the industrial process of sugar-making, the planters attending solely to the cultivation of the cane. In New South Wales, almost from the introduction of the sugar-growing industry, the manufacture of sugar has been in the hands of a powerful company, the Colonial Sugar Refining Company, whose mills on the Clarence and on the Richmond have been referred to in another part of this work. Most of the sugar consumed in the Colony comes from this company's mills, who also own the only sugar refinery in New South Wales. The other establishments, locally known as refineries, whether worked by steam or cattle, are mostly small factories in which sugar of an inferior quality, which has afterwards to undergo the process of refining, is turned out.

Tobacco manufactories.

The use of tobacco manufactured in the Colony has, to a very large extent, superseded that of imported tobacco. The amount of cigars and cigarettes made in the Colony is, on the other hand, very small compared with the total quantity of these commodities consumed. The weight of each description of tobacco used in the Colony during 1887 amounted to—

	Imported.	Made in the Colony.	Total.
	lb.	lb.	lb.
Tobacco	504,021	2,147,418	2,651,439
Cigars	212,663	6,057	218,720
Cigarettes	44,577	10,269	54,846

Imported leaf largely used.

A large amount of imported leaf is used in the manufacture of tobacco in the Colony, the proportion during the past year being 552,217 lb. of imported leaf to 1,595,200 lb. of New South Wales leaf, not including the stalks. The quantities of each kind of tobacco made in the Colony, as well as the weight of leaf used in the manufacture will be found in the following table. The quantity of colonial leaf given includes stalks and stems, which are taken out in the process of manufacture. The proportion of leaf not used would be about 20 per cent. of the total weight of leaf.

Tobacco Factories.

Year.	No. of Tobacco Factories.	No. of Cigar and Cigarette Factories.	Hands Employed.		Value of Plant.	Horse-power of Machinery	Tobacco Leaf Used.		Tobacco, Cigars, and Cigarettes Manufactured.		
			Males.	Females.			Colonial Leaf.	Imported Leaf.	Article.	Quantity.	Value
					£		lb.	lb.		lb.	£
1885	16	9	411	257	62,980	120	1,825,854	672,485	[illegible]cco	2,133,168	319,975
									[illegible]	9,402	5,641
									Cigarettes......	6,901	3,105
1886	17	9	559	144	64,550	120	1,853,407	561,514	Tobacco	2,044,240	306,636
									Cigars	7,125	4,275
									Cigarettes......	5,340	2,403
1887	13	10	506	156	83,650	117	1,994,001	552,217	Tobacco	2,147,418	342,289
									Cigars	6,057	3,634
									Cigarettes......	10,269	4,621

Mills for grinding and dressing grain.

The amount of mill-power for grinding and dressing grain is ample for treating the flour consumed in the Colony. The number of mills at work and the hands employed have varied slightly from year to year, but are now somewhat less than formerly. As the Colony does not produce sufficient grain for its own requirements, it is not at all probable that there will be any notable increase in the number of flour-mills, as those existing are mostly at work only part of their time. Wind and horse-power, as applied to the dressing of grain, have fallen into disuse, and though some water-mills still exist, the number is less than formerly, and is decreasing. Particulars of the mills in operation during the eleven years which closed with 1887 will be found in the subsequent table. The approximate quantity of flour made in the Colony during the past ten years is shown in the following table :—

Flour made in the Colony.

Flour Manufactured.

Year.	New South Wales Wheat treated.	Imported Wheat treated.	Total Wheat treated.	Total Flour made.
	Bushels.	Bushels.	Bushels.	Tons.
1877	2,209,969	696,973	2,906,942	58,139
1878	2,224,650	714,488	2,939,138	58,783
1879	3,147,761	390,618	3,538,379	70,767
1880	3,321,556	300,620	3,622,176	72,443
1881	3,400,934	108,096	3,509,030	70,180
1882	3,136,461	629,841	3,766,302	75,326
1883	3,733,171	175,138	3,908,309	78,166
1884	3,983,246	418,434	4,401,680	88,033
1885	3,927,273	497,775	4,425,048	88,501
1886	2,402,057	984,773	3,386,820	67,736
1887	4,460,629	233,535	4,694,164	93,883

Mills for Grinding and Dressing Grain.

Year.	Steam.		Water.		Wind.		Horse.		Total.		Number of Hands Employed.		
	No.	Horse-power.	No.	Horse-power.	No.	Horse-power.	No.	Horse-power.	No.	Horse-power.	Males.	Females.	Total.
1876	150	2,481	8	77	2	20	4	12	164	2,590	......	......	......
1877	151	2,529	8	80	1	10	3	4	163	2,623	623	......	623
1878	152	2,577	10	88	1	10	2	2	165	2,677	657	7	664
1879	147	2,580	9	84	1	10	4	10	161	2,684	544	2	546
1880	140	2,551	7	88	1	10	2	10	150	2,659	566	......	566
1881	148	2,806	9	95	1	10	1	2	159	2,913	685	10	695
1882	156	2,929	7	72	1	10	2	14	166	3,025	604	9	613
1883	145	2,759	9	88	......	......	......	......	154	2,847	685	......	685
1884	153	3,109	8	98	......	......	......	......	161	3,207	659	3	662
1885	152	3,026	7	66	......	......	......	......	159	3,092	662	......	662
1886	128	2,602	5	48	......	......	......	......	133	2,650	570	1	571
1887	122	2,721	5	48	......	......	1	12	128	2,781	591	8	599

facture of sugar has been in the hands of a powerful company, the Colonial Sugar Refining Company, whose mills on the Clarence and on the Richmond have been referred to in another part of this work. Most of the sugar consumed in the Colony comes from this company's mills, who also own the only sugar refinery in New South Wales. The other establishments, locally known as refineries, whether worked by steam or cattle, are mostly small factories in which sugar of an inferior quality, which has afterwards to undergo the process of refining, is turned out.

Tobacco manufactories

The use of tobacco manufactured in the Colony has, to a very large extent, superseded that of imported tobacco. The amount of cigars and cigarettes made in the Colony is, on the other hand, very small compared with the total quantity of these commodities consumed. The weight of each description of tobacco used in the Colony during 1887 amounted to—

	Imported.	Made in the Colony.	Total.
	lb.	lb.	lb.
Tobacco	504,021	2,147,418	2,651,439
igars	212,663	6,057	218,720
igarettes	44,577	10,269	54,846

Imported leaf largely used.

A large amount of imported [illegible] used in the manufacture of obacco in the Colony, the [illegible] ring the past year being 52,217 lb. of imported lea [illegible] lb. of New South Wales af, not including the [illegible] uantities of each kind of [illegible] le in the C [illegible] the weight of leaf used in [illegible] cture wil [illegible] following table. Th [illegible] ial le [illegible] stalks and stems, w [illegible] th [illegible] acture. The proportio [illegible] per cent. of the total w [illegible]

Building Trades.

Stonemasons	10/- to 11/-	per day of 8 hours.
Bricklayers	11/- to 12/-	,, ,,
Plasterers	11/-	,, ,,
Quarrymen	7/- to 10/-	,, ,,
Carpenters and joiners	9/- to 10/-	,, ,,
Painters	9/-	,, ,,
Labourers in building trades	8/-	,, ,,
Plumbers	10/- to 11/-	,, ,,
Gas-fitters	10/- to 11/-	,, ,,
Slaters	10/- to 12/-	,, ,,

Brickmakers and Potters.

Brickmakers	10½d. to 1/-	per hour.
Pipemakers	8/- to 10/-	per day of 8 hours.
Potters	8/- to 10/-	,, ,,
Pitmen	7/- to 8/-	,, ,,

Coachbuilding Trade.

Coachmakers	8/- to 10/-	per day of 8 hours.
Coachbuilders	8/- to 10/-	,, ,,
Wheelwrights	8/- to 10/-	,, ,,
Painters	6/8 to 10/-	,, ,,
Trimmers	8/- to 10/-	,, ,,
Coachsmiths	8/- to 10/-	,, ,,
Blacksmiths and wheelwrights	35/- to 60/-	per week, of 9 hours per day.
Farriers	35/- to 55/-	,, 8 ,,

Furniture Makers.

Cabinetmakers	8/- to 10/-	per day.
French-polishers	8/- to 10/-	,,

Miscellaneous Trades.

Shipwrights	11/- to 12/-	per day of 8 hours.
Saddle, collar, and harness makers	30/- to 50/-	per week of 54 hours.
Sailmakers	30/- to 50/-	,, ,,
Tailors	50/- to 60/-	,, piece-work.
Pressers	50/- to 60/-	,, ,,
Cutters	70/- to 80/-	,, first-class hands up to £8 8s.
Silk-hatters	53/- to 70/-	per week, piece-work.
Upholsterers	10/- to 12/-	per day.
Coopers	1/3 per hour, or piece-work 40/- to 55/- per week.	

miners	1/- to 1/3	per hour.
umpers and trimmers	1/3 per hour day, and	1/6 per hour night work.
labourers	1/-	per hour.
akers (factory hands)	25/- to 55/-	per week.
and pastry-cooks	30/- to 60/-	,,
rs	30/- to 70/-	,,
o operatives	25/- to 50/-	,,
okers	8d. to 1/-	per hour, 8-hour shifts.
rs and mill-workers	8d. to 1/3	per hour.
ers	8d. to 1/-	,,
sitors	piece-work, 1/1 per thousand, day; and 1/2 per thousand, night-work; or 55/- to 65/- per week, good jobbing hands.	
es	6/6 to 8/-	per day.

Government Railways.

rs	9/-	per day.
rs	7/6	,,
rers, line repairing	7/6	,,
e-drivers	11/-, 12/-, 13/-, 14/-	,,
en	8/- to 10/-	,,
s	10/- to 12/4	,,
ers	7/-	,,
rs and machinists	8/- to 11/8	,,
smiths	10/- to 14/-	,,
rs	7/6	,,
makers	9/4 to 12/2	,,
makers' assistants	7/- to 7/6	,,
ge and waggon builders	9/6 to 11/-	,,
n-masters	£150 to £400	per annum.
raph operators	£50 to £195	,,
lmen shunters	7/- to 11/-	per day.
ls	8/- to 12/-	,,
rs	7/- to 10/-	,,

Government Tramways.

ictors	8/- to 9/-	per day.
ers	6/6 to 7/6	,,
ien	7/-	,,
e-drivers	12/- to 13/-	,,
en	7/6 to 9/-	,,
e-fitters	10/-	,,
rers	7/-	,,

---

stly paid piecework. Newcastle collieries Hewing rate average, 4/2 per ton; ra, 2/6 per ton; Lithgow Valley, 2/4 per ton.

Municipal Labourers.

Skilled labourers	8/-	per day.
Unskilled labourers	6/6 to 7/-	,,
Carters (finding horse and cart)	11/6	,,
Pipe-layers.........................	9/-	,,
Sewer-men.........................	8/-	,,
Gangers	9/- to 14/-	,,

Domestic Servants.

Cooks (females)..................	£45 to £65	per annum.
Cooks (males)	£52 to £78	,,
Hotel cooks	£65 to £200	,,
Laundresses	£45 to £52	,,
House-maids	£30 to £40	,,
General servants	£35 to £52	,,
Nurse-maids	£20 to £39	,,
Grooms and coachmen.........	£52	,,

Station Hands (including rations or board).

Married couples	£65 to £80	per annum.
Farm labourers......	£40 to £52	,,
Bullock drivers...........	£40 to £52	,,
Horse teamsters	£40 to £65	,,
Boundary riders	£40 to £52	,,
Stockmen	£40 to £75	,,
Shepherds.........................	£35 to £45	,,
Gardeners	£40 to £52	,,
Boys	£25 to £35	,,
Road-makers, tank-sinkers, &c.	6/- to 8/-	per day.

Comparatively high rate of wages.

An inspection of the preceding table at once reveals the fact that the labouring classes in this community are far in advance of their fellow-workmen in older countries, in other respects, besides the mere question of better wages. In nearly all departments of labour the daily toil is restricted to eight hours, and though there is no statutory recognition of this time as the limit of a man's labour, it is tacitly acknowledged even by the Governments of the various colonies. Labour organizations and trades' unions are particularly strong in the two provinces of New South Wales and Victoria. Every year a day is set apart in these colonies for a public demonstration in celebration of the foundation of the eight-

Eight-hour system generally adopted.

Cost of living.

hour system, in which thousands of workmen take part. A stranger arriving in Sydney on that day could hardly fail to be greatly impressed with the importance of the movement and the favour with which it is regarded by the whole community. The benefits arising from a high rate of wages are further enhanced by the comparative cheapness in the cost of living, which, except perhaps in the matter of house rent, is not increased in proportion to the earnings of the labouring class. The result of this happy state is visible on all sides, for in no other land can a better-dressed, better-fed, and more contented-looking class be found.

STEAM POWER.

The power used in the Colony for manufacturing, transporting, and other purposes is equivalent to 109,500 horse-power, or 107 horse-power for every thousand persons, a rate comparing not unfavourably with other countries, as will be seen from the subjoined statement computed from Mulhall's Dictionary of Statistics.

Country.	Steam power employed.	Per 1,000 of the population.
	H. P. thousands.	
United Kingdom	7,780	214
France	3,513	92
Germany	4,325	42
Russia	1,365	15
Austria	1,280	34
Italy	480	16
Spain	483	29
Belgium	595	102
Holland	216	50
United States	8,152	162
New South Wales	109	107

Value of machinery.

Of the total power employed in the Colony, by far the greater portion is derived from steam. The amount used in manufactories is 26,152 horse-power, or nearly 24 per cent. of the total employed, and the value of plant and machinery worked by this power is estimated at £5,740,382. No exact estimate can be given of the value of lands and buildings employed for manufacturing purposes, but an approximation has been arrived at for the year 1887. Estimating only for lands and buildings entirely devoted to manufactures, the value for the year named was about £7,186,600, so that the total sum invested in the manufacturing industry was at least £12,926,982.

Money invested in manufacturing.

The services for which steam power is used are shown in the following table, from which it will be seen that land transport absorbs 53,760 horse-power, and harbours and rivers transport 19,000 horse-power, in all 72,760, or 66 per cent. of the total horse-power consumed.

Industries employing power.	Horse-power.
Manufactures, &c.	26,152
Land Transport	53,760
Harbour and River Transport	19,000
Other industries using power	10,588
	109,500

PATENTS.

The law relating to the registration of inventions and improvements has been in force since 1855, but it is only within recent years that the provisions of the Act have been used to any great extent. In 1887 the law was amended, and the fees reduced to the nominal sum of £5 for Letters Patent, and £2 for a certificate of provisional protection, which latter may, if application is made within twelve months from its granting, be converted into a patent on the payment of an additional £3. The result has been that the business of the Patent Office was greatly increased. The inventions registered in 1887 were for the most part not local but foreign, and this feature has marked the operations of the Patent Office since its inception. The following is the business transacted since 1855.

Liberality of the law.

Letters of Registration and Assignments thereof for Inventions or Improvements registered.

Year.	No. of Registrations.			Year.	No. of Registrations.		
	Patents.	Assignments.	Total.		Patents.	Assignments.	Total.
1855	......	......	3	1871	27	5	32
1856	......	......	1	1872	43	5	48
1857	......	......	1	1873	43	6	49
1858	......	......	10	1874	39	21	60
1859	......	......	11	1875	34	16	50
1860	......	......	10	1876	44	18	62
1861	......	......	13	1877	62	27	89
1862	......	......	14	1878	45	19	64
1863	18	4	22	1879	57	16	73
1864	15	2	17	1880	89	23	112
1865	15	5	20	1881	113	13	126
1866	20	5	25	1882	129	21	150
1867	20	4	24	1883	149	24	173
1868	21	2	23	1884	183	29	212
1869	27	5	32	1885	161	27	188
1870	32	4	36	1886	203	31	234

Provisional protection and letters patent.

The new law came into force on 31st July, in 1887, and previous to that date 137 Patents and 21 Assignments were registered. The number of certificates of Provisional Protection and Letters Patent applied for between the 1st August and 31st December, was 148 and 260 respectively, while 23 Assignments were registered during the same period. The countries from which applications for Patents in New South Wales were received during 1887, were as follows:—

Great Britain	91	Canada	1
Germany	9	Cape of Good Hope	1
France	8	New South Wales	247
Sweden	4	New Zealand	23
Denmark	1	Queensland	12
Belgium	3	South Australia	16
Switzerland	2	Victoria	96
United States	31		

Making a total of 545 applications, about 46 per cent. of which were made by persons residing in the Colony; a much larger proportion than in the previous year, when only 49 applications, or 29 per cent., were received from New South Wales.

PART XV.

Internal Communication.

FOR many years, settlement was restricted to the narrow belt of land shut in between the Blue Mountains and the sea. Several main roads were formed through this country within a few years after the first settlement of the Colony. These roads connected the infant towns of Parramatta, Liverpool, Windsor, and Penrith with the metropolis, and were constructed entirely by prison labour. The abrupt wall of sandstone rising on the further side of the Nepean barred all access to the interior of the country. As early as the year 1796, George Bass made an attempt to cross the mountain range, and returned after an unsuccessful journey, reporting that it was impossible to find a passage even for a person on foot. In 1813, a protracted season of drought, attended by considerable losses amongst the stock, brought home very clearly to the settlers the conviction that the future of the Colony entirely depended upon the discovery of an extension of grazing land, beyond the narrow limits within which they were then hemmed. In the month of May of the year named, Gregory Blaxland, W. C. Wentworth, and Lieutenant Lawson once more attempted to find a passage across the mountains. After meeting with difficulties which seem astonishing enough to the present generation, who have seen a railway carried over the same track, by which Bathurst may be reached in a few hours, these gentlemen succeeded in opening a way—sometimes by creeping through dense forests, at others by scaling tremendous precipices—to the vast plains lying west of the great Cordillera of Australia. They returned on the 6th June, and shortly afterwards Governor Macquarie sent a party of surveyors, under Mr. Evans, to report

Bass' attempt to cross the mountain range.

Blaxland, Wentworth, and Lawson discover a passage.

Construction of the Great Western Road.

n the practicability of making a road, and the report being vourable, the construction of the great western highway was at nce commenced, the work being performed by gangs of prisoners. he track thus made formed a continuation of the great Western oad, from Penrith, and it was completed as far as Bathurst by he 21st January, 1815.

Impetus to road-making.

The discovery of the Bathurst Plains, and the completion of the ountain road, gave so great an impetus to settlement that it was und impossible to keep pace in the matter of roads with the emands of the settlers. The Government, therefore, contented self with maintaining the roads already constructed, and extendg them in the direction of the principal centres of settlement. or many years these main roads were the only ones which received ttention. This would perhaps have been otherwise had the proress of settlement subsequent to 1850 been similar to that of the ears previous to that date. Such, however, was not the case. he gold discovery entirely altered the circumstances of the Colony, nd during the period of excitement and change which followed hat remarkable event, so many new roads were opened, and so arge an increase in traffic occurred, that the general condition of he public highways was by no means good. The Roads Departnent was formed as far back as 1857, and, although good service vas done by the road pioneers before that date, the modern system f roadmaking may be said to have begun with the creation of the epartment. It was not, however, until 1864 that the whole of he roads, both main and subordinate, received attention at the ands of the State.

The principal main roads of the Colony are :—

Principal main roads.

Northern Road—length, 405 miles, from Morpeth to Maryland, New England.

Western Road—length, 338 miles, from Sydney to Warren through Bathurst, Orange, and many other important townships; thence prolonged to the Darling, at Bourke, by a line 175 miles in length.

Southern Road—length, 385 miles, from Sydney to Albury. This road was, before the construction of the railway, the great highway between Sydney and Melbourne.

South Coast Road—length, 250 miles. This road, after leaving Campbelltown, ascends the coast range, along the top of which it runs as far as Coal Cliff. It then traverses the Illawarra district, parallel to the coast, and passes through the rich lands watered by the Shoalhaven, Clyde, and Moruya, as far as Eden, at the southern limit of the Colony.

Importance of main roads less than formerly.

None of these roads have now the importance they formerly possessed. The railways of the Colony for the most part follow the direction of the main roads, and attract to themselves nearly all the through traffic, so that the tendency is to turn the roads towards the railways, and not run them in the same direction, as was formerly the case.

Government expenditure on public roads.

The expenditure by the Government upon the different roads varies considerably according to their importance. All roads maintained by the Government fall under six classes. On first-class roads the Government expends yearly an amount equal to £50 per mile; on second-class roads, £25 per mile; third-class, £15 per mile; fourth-class, £10 per mile; fifth-class, £7; and on sixth-class roads, £5 per mile.

Supervision and maintenance of roads.

The network of roads spread over the face of the Colony is divided, for purposes of maintenance, into road districts and road trusts. There are fifty-four road districts, managed locally by superintendents, who have the greater part of the road communication of the Colony outside the municipal boundaries under their care. The road trusts number 400, and have the supervision of certain grants for the maintenance of roads in districts chiefly of minor importance. There are, however, certain important roads in the vicinity of the metropolis governed by trusts. The length of roads in charge of superintendents or road engineers is approximately 22,400 miles, while about 4,000 miles are under road trusts. The length of road which has been formed and metalled and gravelled is not less than 6,000 miles. There are also 4,000 miles of roadway not indeed metalled, but which have been drained, and on which all necessary culverts have been constructed. Four thousand miles have also been cleared and partly graded, while 7,000 miles of road wind their way through the forests of the interior, chiefly along the lines marked out by the cart-wheels of the foremost settlers, and form, in dry weather, adequate means of communication for the settlers, although it must be acknowledged that in seasons of rain these roads are not unfrequently impassable. Besides the roads mentioned above, there are 1,400 miles of mountain passes. Many of the passes presented the most formidable difficulties, and their construction reflects great credit upon the engineering skill of the officer who has for so many years designed and supervised the construction and maintenance of the roads and bridges of the Colony.

Length of roads.

Many of the earliest bridges erected in the Colony were of stone, and are still existing. Those erected in the period following the extension of settlement to the interior were chiefly of timber, and have since been replaced, after a life of about twenty-five years. Nearly all the large bridges of recent erection are of iron or steel, and some of them have been erected under engineering conditions almost unique, owing to the peculiarity of the river flow in some parts of the country. Including the large culverts, which are in reality small bridges, there are altogether 10,000 bridges, covering a length of 60 miles, while there are also over 50 miles of minor culverts, formed of earthenware piping, from 12 to 24 inches in diameter. Where the traffic has not warranted their construction, or where local circumstances have rendered them unavoidable, punts or ferries have been used instead of bridges. There are 92 punts, 7 of which are propelled by steam, and 85 by hand gear and wire rope. The number of boat ferries is 57.

Bridges and culverts.

Punts and ferries.

The use of roads as the main arteries along which traffic from the metropolis to the interior flows has been superseded by the

Value of roads and bridges.

Indirect value.

railways; but the roads remain not only the sole means of communication throughout a large part of the interior, but most valuable feeders to the railway system of the country. No revenue is directly derived from roads, but the indirect advantages to the country have been very great, and after the lands and the railways, they form the largest item of national property. It is estimated that £10,990,197 has been expended on roads and bridges since 1857, and the present value to the State, allowing for depreciation, cannot be less than £8,400,000. Their indirect value cannot be calculated, but as an instance of the change brought about by the system of road construction, it may be mentioned that, after the organization of the Roads Department on its present basis, the cost of carriage of goods by road and the time of transit was reduced by more than one-half, as will appear from the following statement:—

Main Roads.	Distance.	Carriage by Road, 1857.		Carriage by Road, 1864.	
		Days of transit.	Cost per ton.	Days of transit.	Cost per ton.
			£ s. d.		£ s. d.
Sydney to Goulburn	134	17½	12 5 0	7½	3 15 0
,, Bathurst.........	145	23½	15 10 0	11	6 10 0
Newcastle to Murrurundi..	119	21	9 0 0	8	6 10 0

Cost of carrying traffic.

The progress exhibited in these seven years is very great, and it is possible that the cost of carriage on roads was still further reduced before they were superseded in importance by the railways of the Colony. The average cost of carrying 1 ton of goods 1 mile in the year 1864 was about 7½d.; in the year 1872, the first for which the figures are available, the average cost per mile of carriage on railways was 3·61d. per ton, since which year the rates have been as follows:—

1872............	3·61d.
1873	3·28d.
1874.....	3·00d.
1875............	3·07d.
1876..	2·82d.
1877............	2·68d.
1878	2·44d.
1879..	2·25d.
1880............	2·32d.
1881...........	2·29d.
1882............	2·13d.
1883......... ...	1·96d.
1884......... ..	1·90d.
1885............	1·86d.
1886.....	1·81d.
1887............	1·81d.

Cost of carriage minimised.

The saving shown in this table is enormous. The whole volume of goods carried over the railways of the Colony during last year was equivalent to about 175 million tons carried 1 mile, and the saving between the rates of 1864 and 1887 for this amount of traffic would exceed £4,000,000, or 8 per cent. of the total income of the Colony, and is thrice the revenue received for the carriage of goods. What the saving to the Colony by the extension of the railways to the interior has actually been must remain a matter of speculation, but the figures just given may be taken as indicating how large and beneficial an effect railways have upon production, and how greatly they must benefit the general consumer.

Expenditure on roads.

The total expenditure on account of roads of all classes during 1887 was £767,427; this sum, however, includes expenditure on punt approaches, and similar works incidental to the road traffic of the country.

Expenditure for Construction and Maintenance of Roads and Bridges.

Year.	Expenditure by Roads Department.	Expenditure by Trustees.	Total.
	£	£	£
1878	497,032	24,280	521,312
1879	649,774	25,428	675,202
1880	614,709	28,800	643,509
1881	484,567	23,186	507,753
1882	577,212	24,722	601,934
1883	613,847	24,938	638,785
1884	750,584	27,722	778,300
1885	800,962	24,404	825,366
1886	628,379	28,414	656,793
1887	721,994	45,433	767,427

Municipal road and streets.

Besides the roads maintained by the Government there existed, at the close of 1887, 4,647 miles of roads and streets belonging to, and maintained by, the municipalities of the Colony. Of these roads, 2,236 miles were regularly formed and metalled, while 2,411 miles were not formed. The value of these roads is estimated at £2,476,604; but this estimate must be looked upon as an approximation only, since the information obtained from the various municipalities is far from complete.

RAILWAYS.

The first attempt to introduce into New South Wales the blessings of railway communication, which has so revolutionised the commerce of the older parts of the world, was made in 1846. On the 26th August of that year, a meeting was held in Sydney at which it was decided to survey a line to connect the metropolis with the city of Goulburn. Two years afterwards, on 11th September, 1848, the Sydney Tramroad and Railway Company was formed, with a capital of £100,000, having for its object the construction of railways to Parramatta and Liverpool, with a possible extension, in course of time, to Bathurst and Goulburn.

The Sydney Tramroad and Railway Company.

The first sod turned.

No time was lost in breaking ground, and on the 3rd July, 1850, the Hon. Mrs. Keith Stewart, daughter of the Governor, Sir Charles Fitzroy, turned the first sod of the first railway constructed in the Australian Colonies.

The affairs of the Sydney Tramroad and Railway Company did not, however, prosper as the promoters had expected, and it was found necessary to transfer the property of the company to the Government of the Colony. Meanwhile another company had been started in 1853, with the object of constructing a railway from the city of Newcastle to Maitland. It met with no more success than the Sydney company, and shared the same fate. On the Government taking possession of the property of the defunct companies, the works were carried on with more vigour, and on the 26th of September, 1855, the line from Sydney to Parramatta was declared open for public traffic, and the extension to Goulburn was opened on the 27th May, 1869.

The first line from Sydney to Parramatta.

The progress of railway construction during the twenty years which followed the opening of the first line was very slow, for in

Progress of railway construction.

1875 the length of the lines in operation had only reached 437 miles, or at the rate of 21·85 miles per year. Not a single mile of railway was opened during 1865 and 1866; but in 1867 the construction of these great commercial highways received a new impetus, and continued to increase yearly until 1872, when it stood still for another period of two years, during which only 5 miles of railway were thrown open to traffic. In the last ten years of the period of thirty-two years that has elapsed since the first line was opened, the rate of increase in the construction of lines had greatly improved, and from the end of 1876 to the close of the year 1887, 1,527½ miles of railway were opened for traffic, or a yearly average of 139 miles. The following table shows the number of miles of line opened in each year, as well as the total length in operation.

Length of Railway Line opened for Traffic during each Year.

Year.	Opened per annum.	Total opened.	Year.	Opened per annum.	Total opened.
	Miles.	Miles.		Miles.	Miles.
1855	14	14	1872	40	398
1856	9	23	1873	5	403
1857	17	40	1874	nil.	403
1858	15	55	1875	34	437
1859	nil.	55	1876	72	509
1860	15	70	1877	89	598
1861	3	73	1878	90½	688½
1862	24	97	1879	46	734½
1863	27	124	1880	115	849½
1864	19	143	1881	146	995½
1865	nil.	143	1882	273	1,268½
1866	nil.	143	1883	52	1,320½
1867	61	204	1884	298	1,618½
1868	43	247	1885	114	1,732½
1869	71	318	1886	157	1,889½
1870	21	339	1887	146½	2,036
1871	19	358			

Private line.

A private line of railway 45 miles in length has been in operation for some years connecting the important towns of Moama and Deniliquin; it virtually forms an extension of the Victorian railway system from Melbourne to Echuca. Some facts relating to the traffic of this line will be found in another place. The following figures relate only to lines under Government control.

Capital expended.

The capital expended on all lines at the close of 1887 amounted to £28,911,224; of this sum £26,554,357 was for lines opened for traffic. The amounts expended on lines opened during each year from the commencement of the railway system will be found below.

Capital expended on Lines open to Traffic.

Year.	Capital expended on lines open.	Year.	Capital expended on lines open.
	£		£
1855	515,347	1872	6,388,727
1856	683,217	1873	6,739,918
1857	1,023,838	1874	6,844,546
1858	1,231,867	1875	7,245,379
1859	1,278,416	1876	7,990,601
1860	1,422,672	1877	8,883,177
1861	1,536,032	1878	9,784,645
1862	1,907,807	1879	10,406,495
1863	2,466,950	1880	11,778,819
1864	2,631,790	1881	13,301,597
1865	2,746,373	1882	15,843,616
1866	2,786,094	1883	16,905,014
1867	3,282,320	1884	20,080,138
1868	4,060,950	1885	21,831,276
1869	4,681,329	1886	24,079,555
1870	5,566,092	1887	26,554,357
1871	5,887,258		

New South Wales has greatest length of line.

The Colony of New South Wales stands at the head of the Australasian Colonies in regard to railway development, as will be seen from the following table.

Length of Line open for Traffic in Australasian Colonies—1887.

	Miles.
New South Wales	2,081
Victoria	1,880
New Zealand	1,849
Queensland	1,765
South Australia	1,420
Tasmania	318
Western Australia	154
Total	9,467

In the case of two of the colonies, New South Wales and New Zealand, the above figures include the length of private lines in operation.

Railway systems of Colony—Southern lines

The railway system of the Colony is divided into three distinct branches, each representing a system of its own. The southern system, including the principal line in the Colony, branches at Junee, and places the important district of Riverina, as far as the town of Hay in one direction, and Jerilderie in another, in direct communication with Sydney—from which they are distant 454 and 412 miles respectively. From several other points of the line branches connecting other important districts with the metropolis have been opened for traffic, or are in course of construction. At Cootamundra, a line has been laid down, which now reaches Gundagai, whilst from Murrumburrah a line has been constructed which connects Blayney on the western line with the southern and western systems of New South Wales Railways. This practically enables direct railway communication to be made between Melbourne and Bourke, the capital of Central Australia; and the branch line has been found of much benefit in allowing the direct shipment of stock from the pasture grounds to the Victorian markets. Nearer Sydney the important town of Goulburn will be the centre of a system of branch lines, one of which, that from Goulburn to Cooma, is already partly built, and brings the rich pastoral district of Monaro in direct communication with Sydney. It is also intended to connect Goulburn with the township of Crookwell, the centre of a large agricultural district 25 miles distant. Further south the construction of a branch line from Wagga Wagga to Tumberumba has been proposed, and also a branch from Culcairn to Corowa on the Murray.

Brisbane, Sydney, Melbourne, and Adelaide connected by rail.

The southern main line is the most important of the railway lines in the Colony, as it passes through the richest and most thickly populated districts, and places the four great capitals of Australia—Brisbane, Sydney, Melbourne, and Adelaide—in direct communication with each other. It was not until 1883 that this line was actually open for traffic, the railway bridge across the Murray River, which flows between Wodonga, the Victorian terminus, and Albury, the terminus of the southern line of New South Wales, having been completed in that year. The traffic, both of passengers and goods, on the southern system generally, is very extensive, and arrangements for the regular carriage of mails between the two great cities enable letters to be delivered in less than twenty hours. The time occupied by the express trains on the journey is only eighteen hours, and the ordinary passenger trains running daily cover the distance (576 miles) between Sydney and Melbourne in twenty-four hours and a half. Sleeping cars are attached to these trains, on the New South Wales side, and the comfort of travellers is assured by the introduction of the most modern improvements in the construction and fitting up of the railway carriages. Since the completion of the railway from Melbourne to Adelaide, a distance of 508½ miles, European mails are landed at the latter port and forwarded overland to all parts of Victoria and New South Wales.

Rapid transit of mails.

Western system.

The western system of railways extends from Sydney in the direction of the Blue Mountains, of which it reaches the upper levels a little above Emu Plains, by a system of zig-zag lines which enables the locomotive to drag its heavy freight up the abrupt eastern slope of the mountains. The line runs along the top of the range, until it descends into the valley below Mount Clarence, by another and more important zig-zag, the construction of which is a triumph of engineering skill. In its course between these two zig-zags the line passes through magnificent mountain scenery of a character peculiar to this part of the world, and none the less remarkable. Leaving the mountains, the Western Railway, after throwing out a branch from Wallerawang to Mudgee, enters the Bathurst Plains, and connects the rich agricultural lands of the Bathurst, Orange, and Wellington districts with the metropolis. Beyond Dubbo it enters the pastoral country, and reaches the Darling at Bourke, 503 miles from Sydney. At Orange a branch line, a few miles in length, connects that town with Molong, and it has been proposed to make Orange the junction of a line extending through the western pastoral districts, as far as the town of Wilcannia, on the Darling. Further up, at Nyngan, 377 miles from Sydney, a line is projected to connect the important mining district of Cobar with Sydney, affording at the same time rapid and sure means of communication with the pastoral country, of which Cobar is also the centre. The western railway system also includes a short line from Blacktown to the Hawkesbury, *viâ* the towns of Windsor and Richmond.

Projected branch lines.

Northern system.

The northern system originally had its terminus at Newcastle, but a connecting line between Homebush and Waratah has been constructed, which makes Sydney the head of the whole of the railway systems of the Colony. The Hawkesbury River has yet to be crossed, and a great bridge over the river, the contract for which, at a cost of £327,000, has been entrusted to an American firm, is now under construction. The opening of this connecting line will allow direct communication between Adelaide, Melbourne, Sydney, and Brisbane, a distance from end to end of 1,808 miles. Pending the completion of the Hawkesbury Bridge, communication is afforded by steamers plying in conjunction with the railway service. The connection has been found of great value to

Hawkesbury River Bridge.

those requiring quick transit, and for the carriage of postal matter. It facilitates, moreover, the active business life of the colonies, and will be of national importance should at any time strategic movements require to be made in connection with military operations.

The northern line runs *viâ* Newcastle and the great coal centres, through the rich agricultural district of the Hunter Valley, to the important part of the Colony known as New England, passing through some of the largest inland towns in New South Wales, such as Maitland, which is the fourth town in the Colony in point of population, being surpassed only by the city of Newcastle and the town of Parramatta. The country traversed by this line north of Newcastle is extremely fertile, and well deserves its name of the granary of New South Wales. As the line ascends further north, it passes through a rich pastoral and agricultural territory, and some important townships are reached, viz., Tamworth, Glen Innes, Armidale, and Tenterfield.

Projected branch lines

The northern system also comprises a branch from Werris Creek to Narrabri, which it has been proposed to extend as far as Moree, in the north-west, and the Darling in the west, thus placing the Namoi and Gwydir pastoral districts in direct communication with the ports of Newcastle, and Sydney. The construction of a branch from Muswellbrook to Cassilis is also contemplated. In the New England District, a line has been long projected, which would connect the town of Glen Innes with that of Inverell, on one side, and with the city of Grafton, on the Clarence, on the other, with a further extension running parallel to the coast from the latter city to the Tweed River.

Circular Quay extension.

The question of the extension, through the heart of the metropolis, of the railway system—which at present has its terminus at some little distance from the business centre of the city—to the Circular Quay is again under consideration, and the Government favour a scheme which provides at the same time for the extension of the benefits of railway communication to the eastern suburbs of the city. A short branch line is also being constructed, which, when completed, will connect, through the line from Homebush to Waratah, at Pearce's Corner, the northern districts of the Colony with the north shore of Port Jackson. Proposals have been made from time to time to bridge the Harbour, and thus allow direct communication by rail between the suburbs on the north and the city on the south shore.

Illawarra line.

Besides the lines and branches included in the three systems above described, another line, entirely independent of them, has been constructed, connecting the metropolis with the coastal district of Illawarra, which is rich alike in coal and the produce of agriculture. So far, the line which is open for traffic extends to the boundary of the National Park, which it connects by means of a short branch. A separate portion of the line, viz., from Clifton to Kiama has been opened for some little time, and the intervening gap, about 12 miles, will be opened about the end of the present year, when direct communication from Sydney to Kiama will be afforded. It is proposed to continue the line to Jervis Bay, closely following, and parallel to the coast. Parliament has likewise authorized the construction of a line from the port of Eden at Twofold Bay, in the south of the Colony, to the township of Bega, in the centre of a rich agricultural district.

Growth of traffic.

The contrast between the present condition of the New South Wales railways and their humble beginning in 1855 is a remarkable one. In 1856, the first year which can be fairly taken for purposes of comparison, the number of passengers carried on the railways was only 350,724, whilst in 1887, the number was 14,451,303, or over 42 times greater. But the tonnage of goods carried in each of these years represents a very much larger increase, having grown from 2,469 tons, in 1856, to 3,339,253 in 1887, or 1,350 times greater than in the first full year of railway operations. In the earlier portion of the period of thirty-one years, which the above figures illustrate, it would seem that the larger part of the railway earnings was obtained from the passenger traffic, and this was no doubt due to the fact that the first railways were almost entirely suburban. It was not until

Goods principal source of revenue.

the line crossed the mountains and opened up the far interior that the proportions changed, and the goods traffic became the principal source of revenue of the railways. This change began to take place in 1867, in which year the construction of railways, after being for two years almost at a standstill, received a sudden impetus, 61 miles of road having been opened in the year named, as against 19 miles only in the previous period of three years. Since 1867 the proportion of earnings from goods traffic has constantly increased in a much greater ratio than that obtained from passengers, and in 1887 the figures stood at £1,357,796 from goods, and £850,499 from passengers.

Goods traffic affected by the season.

Effect of rivers on traffic.

The comparison between the earnings of the earlier part of the period from 1855 to 1887—when the net result every year represented only a small portion of the interest due on the capital expended in the construction of the lines—and the subsequent period affords matter for satisfaction, although the figures for 1886 and 1887 show a falling off. It must be borne in mind, however, in comparing the latter year with the excellent results exhibited during the period from 1874 to 1884, when considerably over 4 per cent. was realized, that the fall in receipts is due in a great measure to the previous years of drought, and in a large degree also to the uncertainty attaching to the land laws and fiscal policy. The seasons of 1886 and 1887 although prosperous as far as the pastoral and agricultural industries are concerned, have, precisely on account of their excellence, militated against the progress of the goods traffic on the lines lately opened, particularly that from Dubbo to Bourke, and the branches of the southern system, which tap the centre of the district of Riverina. The large rainfall caused the rivers Murray, Murrumbidgee, Lachlan, and Darling to remain navigable during the whole of the season, and much of the wool and other produce, which, in ordinary years, would have found its way to Sydney for shipment, was carried down the Darling and other rivers, and forwarded to Adelaide or Melbourne. It may also be added that, from the end of 1883 to the close of 1885, 412 miles of railway were opened, chiefly through districts which are more sparsely populated, and in times of drought suffer more than any others. Thus, in years of abundance, the rivers of the western country enter into direct and damaging competition with any other means of carriage. It should be borne in mind, in addition, that the statistics of railway returns in all parts of the world show that few lines, except perhaps suburban ones, return, during the first few years after their opening, anything like a profit. In England, a period of seven years has been allowed by good authorities for a line to develop traffic; and if such is the fact in more densely populated countries, whose resources are more developed than is the case in New South Wales, the result illustrated by the figures occasions no surprise.

Loss on new lines.

The small receipts from the new lines opened from 1884 to 1887 and the cost of working necessarily lowered the general percentage of profits earned in those years. This is not an isolated experience in the history of railway management in this Colony. A glance at the table of net earnings and interest on capital expended upon railways, which will be found on page 423, will show that during the period from 1870 to 1876, in which the percentage of new lines yearly constructed was very small, being only 191 miles during the whole period of seven years, or 27½ miles per year, the railway profits show a constant and regular increase from 1·817 to 4·428 per cent. In the two years which followed 178 miles of railway were constructed, and the profits immediately show a decline in the succeeding year to 3·741 and 3·341 per cent. From 1880 to 1884, the railways were extended chiefly to centres already populous and prosperous, viz., Riverina and New England, and the central districts of Wellington and Dubbo; and as these were years of remarkable prosperity, the railway profits suffered less than usual from the considerable extension that took place during that period. But the lines since constructed have been for the most part through pastoral country, or have formed costly links in the system of railway communication, such as the bridge and 3 miles of line connecting the railways of New South Wales and

Extensions reduce general returns.

Victoria at Albury. In these and other cases, as, for instance, the branch from Murrumburrah to Blayney, intended to connect the southern and western railway systems, the value of the new lines will not be felt until the entire systems of which they form a part are harmoniously at work. A large sum of money has been expended on each section of the line from Homebush to the Hawkesbury, and from the opposite shore of the river to Waratah; but until the completion of the bridge over the Hawkesbury River the line cannot be expected to return the interest on the money expended upon it. Expensive new lines result in an increase of percentage of working expenses to the gross earnings, as these lines have to be kept in full working order and repair whilst actually returning in gross earnings little over the cost of maintenance. The small returns on expensive incompleted branches further tend to diminish greatly the profits of a railway system taken as a whole; but such is the history of railway construction in all parts of the world, and New South Wales is no exception to the general rule.

Light lines.

It is proposed that future extensions shall be constructed on a different principle, with the exception of coast lines, the gauge of 4 ft. 8½ in., which has been adopted throughout the Colony remaining the same, but the lines being of lighter and less costly construction than those already in existence. The almost uniformly level character of the country through which these extensions will be carried facilitates the adoption of the light line system, and a considerable saving in the cost of construction will thus be effected.

Average cost per mile.

The following table will show the cost of construction of the various branches of the railway system of the Colony. The average cost for the whole of the lines is calculated to be £11,037 per mile, including all charges, a figure, which, considering the character of some parts of the country through which the lines have been carried, and the cost of labour, which is considerably greater in New South Wales than in other parts of the world, is by no means a high one.

Cost of Construction of different Sections of the Railway Lines, to 31st December, 1887.

Lines open for Traffic.	Length in Miles.	Periods for which lines were in operation.	Cost of Construction.		Cost of Rolling Stock, Machinery, Workshops, and Furniture.	Total capital expended.
			Amount.	Total.		
		Months.	£	£	£	£
Suburban—Sydney to Granville	14½	12	....	1,307,912	550,638	1,858,550
South—Granville to the Murray, including Cooma and Gundagai Branches.	448½ 17 30¼	12 3¾ ¾	4,867,900 144,000 256,000	5,267,900	1,158,154	6,426,054
South-Western—Junee to Hay, and Jerilderie Branch	232	12	....	1,345,758	99,296	1,445,054
Murrumburrah to Cowra	61	12	....	500,000	24,945	524,945
Western—Granville to Bourke, including Richmond and Molong Branches.	528	12	....	5,530,955	1,409,977	6,940,932
Mudgee—Wallerawang to Mudgee	85	12	....	948,249	54,268	1,002,517
Illawarra—Sydney to Waterfall, and Clifton to Kiama	24 12 22	12 6¼ 1⅔	460,000 180,000 330,000	970,000	94,297	1,064,297
Homebush to Waratah—Strathfield to Hawkesbury, Gosford to Waratah	14 15 50	12 8¾ 4½	297,288 348,933 640,249	1,286,470	25,711	1,312,181
Northern—Newcastle to Tenterfield	385½	12	....	4,757,831	589,527	5,347,358
North-Western—Werris Creek to Narrabri	97	12	....	553,877	56,357	610,234
	2,035¾	......	....	22,468,952	4,063,170	26,532,122

Cost per mile in New South Wales.

Lines in pastoral country less costly.

In considering these figures in detail, it is impossible not to be struck with the difference in the cost per mile of the extensions through the pastoral country from Junee to Hay, and from Werris Creek to Narrabri, which average only £5,800 and £5,700 per mile respectively, or less than half the general average cost of other lines. The cost of the light lines, which will shortly be in course of construction through a country of similar formation, should not reach even the figure just stated.

Cost in other countries.

The cost of railway construction in some of the principal countries of the world, for which figures are available, was as follows:—

To end of year.	Countries.	Cost per Mile.
		£
1884	United Kingdom	42,486
1883	Belgium	36,508
,,	France	27,704
,,	Germany	21,236
,,	Russia in Europe	20,000
1884	India	13,202
,,	Canada	12,223
,,	Cape Colony	9,217
,,	Victoria	13,757
1887	New South Wales	11,037
1884	New Zealand	8,713
,,	Queensland	6,654
,,	South Australia	6,432
,,	Tasmania	8,430

PASSENGER TRAFFIC.

Journeys per head of population.

The number of journeys made by each person in the Colony now averages 14·13 per annum, as against 4·70 in 1877. The rease has been exceedingly rapid as well as fairly uniform, as ll be seen from the following table :—

Year.	Number of Journeys.	Year.	Number of Journeys.
1877	4·70	1883	12·31
1878	5·63	1884	12·78
1879	6·25	1885	14·51
1880	7·50	1886	15·19
1881	9·08	1887	14·13
1882	11·30		

The average number of journeys per inhabitant stands higher in ew South Wales than in any other country, Victoria and Engnd alone excepted. The average for Victoria is 49·1; England, ·8 ; Scotland, 13·6 ; United States, 6·0 ; and France, 5·3. The tal number of persons travelling, including season ticket-holders, shown in the next table, which should be read in connection ith that just given.

Number of passengers carried.

Year.	Number of Passengers carried.	Year.	Number of Passengers carried.
1855	98,846	1872	753,910
1856	350,724	1873	875,602
1857	329,019	1874	1,085,501
1858	376,492	1875	1,288,225
1859	425,877	1876	1,727,730
1860	551,044	1877	2,957,144
1861	595,591	1878	3,705,733
1862	642,431	1879	4,317,864
1863	627,164	1880	5,440,138
1864	693,174	1881	6,907,312
1865	751,587	1882	8,984,313
1866	668,330	1883	10,272,037
1867	616,375	1884	11,253,109
1868	714,563	1885	13,506,346
1869	759,635	1886	14,881,604
1870	776,707	1887	14,451,303
1871	759,062		

Average distance travelled per passenger.

In spite of the extension of the lines into the interior of the mtry, the average distance travelled by each passenger has not increased. This is due to the growth of the suburban tra which has been more rapid, as might be expected, than the incre in long distance travelling. The following table shows the aver length of journey of each passenger for eleven years.

Average Distance travelled by each Passenger.

Year.	No. of Miles.	Year.	No. of Mile
1877	12·45	1883	13·12
1878	12·56	1884	13·13
1879	13·44	1885	12·66
1880	13·45	1886	12·24
1881	12·41	1887	11·83
1882	12·47		

Earnings per mile.

The earnings of the passenger traffic per mile of line in o tion have been decreasing for some few years past, as may be below.

Receipts from Passenger Traffic per Mile of Line open.

Year.	Amount received.	Year.	Amount rece
	£ s. d.		£ s.
1877	492 0 0	1883	508 6
1878	483 18 0	1884	520 14
1879	451 6 0	1885	499 10
1880	495 14 0	1886	474 8
1881	511 4 0	1887	439 6
1882	525 2 0		

Average fares per mile.

The decrease shown above is due to the rapid extension of lines into sparsely populated districts, and to the lowering of fares, as will be seen from the following figures, giving the ave fare paid per mile during each of the last eleven years.

Average Fare paid per Mile per Passenger.

Year.	Amount.	Year.	Amount.
	s. d.		s. d.
1877	0 1·52	1883	0 1·01
1878	0 1·37	1884	0 1·03
1879	0 1·14	1885	0 1·00
1880	0 1·12	1886	0 0·94
1881	0 1·21	1887	0 0·96
1882	0 1·10		

The reduction in the fare per mile has been attended by a duction in the average fare paid per passenger; so that the fare id in 1887 was only 11·75d. as against 18·75d. ten years pre-ously, as will be seen below.

Average fares paid per passenger.

Average Amount of Fare paid per Passenger.

Year.	Average amount of Fare.	Year.	Average amount of Fare.
	s. d.		s. d.
1877	1 6·75	1883	1 1·25
1878	1 5·37	1884	1 1·5
1879	1 3·50	1885	1 0·5
1880	1 3	1886	0 11·5
1881	1 3	1887	0 11·75
1882	1 1·5		

In spite, however, of the reductions in the fare payable, the ceipts per train mile during 1887 were fairly maintained. This notes a less amount of dead weight carried per ton of passengers, nd will perhaps be best seen from the following figures :—

Receipts from passenger traffic per train mile.

Receipts from Passenger Traffic per Train Mile.

Year.	Amount received.	Year.	Amount received.
	s. d.		s. d.
1877	5 5·4	1883	6 2·55
1878	5 2·3	1884	6 1·4
1879	5 0·6	1885	6 1·7
1880	5 7·46	1886	6 1·72
1881	6 1·12	1887	6 0·32
1882	6 4·71		

Receipts per 100 tons of passengers carried one mile.

The earnings per ton of passengers net, and including tare, have not been determined for 1887; but the results of previous years' workings are known. It would appear that during 1886, in order to carry 100 tons weight of passengers, the actual weight of train load to be moved was 2,521 tons. In 1877, the load required to be moved in order to carry 100 tons weight of passengers was 3,930 tons, so that the proportion of tare saved during the period was not less than 25·6 per cent. The saving effected in this respect is shown in the following table:—

Receipts per 100 Tons of Passengers carried One Mile.

Year.	Earnings from carrying 100 tons of Passengers 1 mile.	Earnings from carrying 100 tons of Passengers 1 mile, including tare.
	s. d.	s. d.
1877	173 6	5 1·4
1878	154 11	4 9
1879	136 10	4 3·9
1880	134 0	4 6·4
1881	144 5	4 1·2
1882	134 8	4 11·9
1883	124 10	4 8·7
1884	128 8	4 10·6
1885	126 8	4 10·5
1886	122 11	4 10.5
1887	129 1	....

Receipts per head of population.

The average receipts from passenger traffic per head of population have very rapidly increased, and during 1885 stood at 17s. 10·32d., and in 1887 16s. 7·64d., as against 8s. 7·56d. in 1877. This increase is not due, as might be supposed, to the longer distance travelled by passengers; for it will be seen from a previous table that this average distance is now somewhat shorter than formerly, a much larger proportionate increase in the railway mileage than in the population enabling a larger measure of railway travelling. This increase is also due to the greater favour with which railway travelling is now regarded.

Receipts from Passenger Traffic per Head of Population.

Year.	Amount per head.	Year.	Amount per head.
	s. d.		s. d.
1877	8 7·56	1883	15 10·32
1878	9 3·72	1884	16 11·16
1879	9 3·12	1885	17 10·32
1880	10 9	1886	17 1·56
1881	12 10·20	1887	16 7·64
1882	14 9·48		

GOODS TRAFFIC.

Analysis of the goods traffic.

The weight of goods carried per head of population in New South Wales compares favourably with that of many countries where railways have been long established. The average tonnage for the last eleven years was—

Tonnage of Merchandise carried per Head of Population.

Year.	Tons.	Year.	Tons.
1877	2·27	1883	3·43
1878	2·47	1884	3·55
1879	2·49	1885	3·52
1880	2·35	1886	3·28
1881	2·68	1887	3·27
1882	3·29		

Tonnage of merchandise compared with other countries

The largest amount of tonnage per inhabitant is in Scotland, where it averages 9·5; the lowest important European country is Italy, with only 0·4 tons per head. The relative position of New South Wales will be seen from the next table.

Tonnage of Merchandise moved per Head of Population in the Principal Countries of the World.

	Tons.		Tons.
Scotland	9·5	Victoria	3·0
England and Wales	8·4	Australia (all colonies)	3·0
United States	7·6	Canada	3·1
Belgium	6·5	France	2·5
Germany	5·3	Ireland, Japan, British India	0·8
New South Wales	3·3	Spain, Italy, Russia	0·4 to 0·6

Tonnage of goods carried.

The absolute tonnage of goods carried in each year on New South Wales railways is given in the following table :—

Tonnage of Goods carried in New South Wales.

Year.	Tonnage of Goods.	Year.	Tonnage of Goods.
1855	140	1872	825,360
1856	2,469	1873	923,788
1857	20,847	1874	1,070,938
1858	33,385	1875	1,171,354
1859	43,020	1876	1,244,131
1860	55,394	1877	1,430,041
1861	101,130	1878	1,625,886
1862	205,139	1879	1,720,815
1863	218,535	1880	1,712,971
1864	379,661	1881	2,033,850
1865	416,707	1882	2,619,427
1866	500,937	1883	2,864,566
1867	517,022	1884	3,124,425
1868	596,514	1885	3,273,004
1869	714,113	1886	3,211,951
1870	766,523	1887	3,339,253
1871	741,986		

Haulage.

The average distance each ton of goods was carried during 1886 was 53·9 miles, and the distance for 1887 was probably about the same. This shows a considerable increase over the average distance of 1877, but is less than that of the three previous years.

Average Miles of Haulage per Ton of Goods.

Year.	Miles.	Year.	Miles.
1877	34·1	1882	47·7
1878	36·1	1883	54·2
1879	39·2	1884	54·3
1880	46·5	1885	53·4
1881	49·1	1886	53·9

Tons of goods carried per mile of line.

The number of tons of goods carried over each mile of line in operation has greatly decreased, especially since 1882. This is partly due to the opening of long extensions since the date mentioned, but it is to no slight extent the result of the disastrous seasons which have afflicted part of the interior of the Colony.

Tons of Goods carried per Mile of Line open.

Year.	Tons.	Year.	Tons.
1877	2,590	1883	2,199
1878	2,568	1884	2,182
1879	2,427	1885	1,967
1880	2,176	1886	1,798
1881	2,127	1887	1,725
1882	2,340		

Receipts from goods per mile

The fall in the amount of goods carried per mile of line was naturally accompanied by a fall in the earnings per mile from goods carriage. In 1877, the receipts from goods traffic amounted to £986 2s. per mile; in 1881, £999 10s., while in 1887 the sum received was only £701 6s. 9d.

Receipts from Goods Traffic per Mile of Line open.

Year.	Amount.	Year.	Amount.
	£ s. d.		£ s. d.
1877	986 2 0	1883	975 4 0
1878	942 12 0	1884	936 2 0
1879	892 0 0	1885	807 12 0
1880	979 10 0	1886	732 6 0
1881	999 10 0	1887	701 6 3
1882	992 8 0		

Average earnings per ton.

The average earnings from the carriage of goods per ton per mile have fallen greatly during the last ten years. The lowering of freight is chiefly, but not entirely responsible for the decline, as, especially during late years, the increase in the amount of goods carried, which is shown on page 440, has been chiefly among those descriptions of goods which are carried at the least remunerative rates. The combined result of the action of the reduced freights, and the carriage of a larger proportion of low-rate goods, will best be seen from the column of the following table giving the net average receipts for a ton of goods, including tare, carried 1 mile. In 1877 the earnings amounted to ·62d. per ton, while in 1886 they had fallen to ·38d.

Receipts from goods traffic.

Receipts from Goods Traffic.

Year.	Receipts per ton per mile, not including tare.	Receipts per ton per mile, including tare.	Receipts per ton of merchandise carried.	Receipts per train mile.
	pence.	pence.	s. d.	s. d.
1877	2·68	0·62	7 7·3	9 9·6
1878	2·44	0·52	7 2·4	8 1·1
1879	2·25	0·49	7 4·2	7 7·1
1880	2·32	0·54	9 0	8 3·9
1881	2·29	0·55	9 5·4	8 2·8
1882	2·13	0·44	8 5·8	7 4·5
1883	1·96	0·40	8 10·3	6 8
1884	1·90	0·41	8 6·9	6 9·1
1885	1·86	0·39	8 2·5	6 10
1886	1·81	0·38	8 1·7	7 0·7
1887	1·82	……	8 1·5	7 5·3

Receipts per head.

The receipts per head of population from goods traffic reached the maximum in 1883, when they amounted to £1 10s. 5·16d. In 1884 they remained at the same figure, but in 1887, the amount received had fallen to £1 6s. 7d. The receipts during each year since 1877, are shown below.

Receipts from Goods Traffic per Head of Population.

Year.	Amount.	Year.	Amount.
	£ s. d.		£ s. d.
1877	0 17 3·72	1883	1 10 5·16
1878	0 18 1·68	1884	1 10 5·16
1879	0 18 3·72	1885	1 8 10·32
1880	1 1 2·88	1886	1 6 8·76
1881	1 5 1·56	1887	1 6 7·00
1882	1 7 11·40		

Gross earnings and working expenses.

The gross amount received from all sources during 1887 was 2,208,295. This was a larger sum than was obtained in any revious year. The cost of working the railways reached 1,457,761, so that the net earnings during 1887 were £750,534, 34 per cent. of the total earnings. The following table gives the ross earnings and total working expenses with the proportion per nt. of the expenditure to the receipts.

Gross Earnings and Working Expenses, and Percentage of Working Expenses to Gross Earnings.

Year.	Gross Earnings.	Working Expenses.	Percentage of working expenses to gross earnings.
	£	£	per cent.
1855	9,249	5,959	64·43
1856	32,283	21,788	67·49
1857	43,387	31,338	72·23
1858	62,309	43,928	70·50
1859	61,760	47,598	77·07
1860	62,269	50,427	80·98
1861	75,004	61,187	81·58
1862	103,871	68,725	66·16
1863	123,941	96,867	78·16
1864	147,653	103,715	70·24
1865	166,032	108,926	65·60
1866	168,535	106,230	63·64
1867	189,072	117,324	62·08
1868	224,359	144,201	64·29
1869	264,975	176,362	66·57
1870	307,142	206,003	67·08
1871	355,322	197,065	55·46
1872	424,989	207,918	48·92
1873	484,236	238,035	49·16
1874	536,575	257,703	48·03
1875	614,648	296,174	48·18
1876	693,225	339,406	48·96
1877	815,920	418,985	51·35
1878	902,989	536,988	59·47
1879	952,366	604,721	63·49
1880	1,161,017	647,719	55·79
1881	1,444,226	738,334	51·12
1882	1,698,863	934,635	55·02
1883	1,931,464	1,177,788	60·97
1884	2,086,237	1,301,259	62·37
1885	2,174,368	1,458,153	67·06
1886	2,160,070	1,492,992	69·12
1887	2,208,295	1,457,761	66·01

Net revenue.

The net revenue for 1887 was £750,534, while the average amount of capital expended on lines in operation during the year was £25,355,810, so that the net return per cent. was only 2·96, which is less than was received in any year since 1871, 1886 alone excepted. The interest payable on the capital expended for 1887 was £1,063,938, or at the rate of 4.01 per cent. The net deficiency in the railways of the Colony to be made good out of revenue was thus £313,404.

Net Earnings, and Interest on Capital expended on Railways.

Year.	Net Earnings.	Interest on capital.	Year.	Net Earnings.	Interest on capital.
	£	per cent.		£	per cent.
1855	3,290	·638	1872	217,071	3·397
1856	10,495	1·536	1873	246,201	3·653
1857	12,050	1·176	1874	278,872	4·074
1858	18,381	1·492	1875	318,474	4·396
1859	14,162	1·107	1876	353,819	4·428
1860	11,841	·832	1877	396,935	4·468
1861	13,817	·899	1878	366,001	3·741
1862	35,146	1·842	1879	347,645	3·341
1863	27,073	1·097	1880	513,298	4·353
1864	43,938	1·669	1881	705,892	5·307
1865	57,106	2·079	1882	764,228	5·135
1866	62,305	2·236	1883	753,676	4·484
1867	71,748	2·185	1884	784,978	4·201
1868	80,158	1·973	1885	716,215	3·370
1869	88,613	1·892	1886	667,078	2·901
1870	101,139	1·817	1887	750,534	2·960
1871	158,257	2·688			

Comparison with other countries.

Points of comparison between the railways of a large and thinly inhabited country such as New South Wales and the countries of the Old World are difficult to obtain. The following tables, however, illustrate the population and area of territory per mile of line open in the principal countries of the world. It will be seen that New South Wales comes fairly well out of the comparison.

Population of the Principal Countries, Length of their Railways, and Population per Mile of Railway.

Countries.	Population.	Miles of Railways open.	Population to each Mile of Railway.
United Kingdom	37,091,564	19,332	1,914
United States	50,155,783	127,729	393
France	38,218,903	20,177	1,894
Germany	46,855,704	23,094	2,029
Austria-Hungary	39,640,834	14,308	2,770
Italy	29,943,607	7,219	4,148
Spain	17,226,254	5,380	3,202
Belgium	5,909,975	2,745	2,153
Holland	4,390,857	1,496	2,935
Russia in Europe	88,205,353	15,934	5,536
Sweden	4,717,189	4,518	1,044
Norway	1,959,000	970	2,020
Denmark	1,980,259	1,195	1,657
Switzerland	2,940,602	1,818	1,618
Portugal	4,708,178	948	4,966
Greece	1,979,453	109	18,160
Turkey in Europe	4,790,000	865	5,538
Canada	4,324,810	10,715	404
Mexico	10,447,974	3,388	3,084
Brazil	12,333,375	4,625	2,667
Argentine Republic	3,000,000	3,635	825
British-India	253,982,595	13,568	18,719
Cape of Good Hope	1,252,347	1,599	783
New South Wales*	1,042,919	2,081	501
Victoria	1,003,043	1,753	572
Queensland	342,614	1,555	220
South Australia	312,758	1,382	226
Western Australia	39,584	154	257
Tasmania	137,211	303	453
New Zealand	589,386	1,809	326

---

* The figures for New South Wales relate to 1887; those for the other Australasian Colonies to 1886. The information for each of the other countries is up to the latest available date, which in the majority of cases was 1886.

Area of the Principal Countries, Length of their Railways open, and area per Mile of Railway.

Countries.	Area in Square Miles.	Miles of Railways open.	Square Miles per Mile of Railways open
United Kingdom	121,305	19,332	6
United States	3,003,724	127,729	23
France	204,031	20,177	10
Germany	208,641	23,094	9
Austria-Hungary	240,196	14,308	17
Italy	110,623	7,219	15
Spain	195,716	5.380	36
Belgium	11,370	2,745	4
Holland	12,515	1,496	8
Russia in Europe	2,080,396	15,934	130
Sweden	170,661	4,518	38
Norway	124,666	970	129
Denmark	14,751	1,195	12
Switzerland	15,442	1,818	8
Portugal	34,449	948	36
Greece	24,970	109	229
Turkey in Europe	63,850	865	74
Canada	3,448,542	10,715	322
Mexico	741,791	3,388	219
Brazil	3,218,082	4,625	696
Argentine Republic	1,158,000	3,635	318
British India	1,378,044	13,568	101
Cape of Good Hope	213,636	1,599	134
New South Wales *	310,700	2,081	149
Victoria	87,884	1,753	50
Queensland	668,224	1,555	430
South Australia	903,425	1,382	654
Western Australia	975,920	154	6,338
Tasmania	26,375	303	87
New Zealand	104,235	1,809	58

---

* The figures for New South Wales refer to 1887 ; those for the other Australasian Colonies are for 1886. For other countries the figures given are up to the latest available date, which in the majority of cases was 1886.

Up to 31st December, 1887, the total length of lines opened for traffic was 2,036 miles, and 132 miles were in course of construction at that date, making a total of 2,168 miles of road either open for traffic or being constructed. Besides this, Parliament has authorized the construction of 1,245 miles of railroad, and the state of the railway progress of the Colony stood as under at the close of the year 1887.

Lines open, under construction, and authorized.

	Miles.
Lines open for traffic	2,036
Lines under construction	132
Lines authorized by vote of funds	1,245
Total length of line	3,413

The total amount of money expended on railway construction at the close of 1887 was £28,911,224, of which £26,532,122 had been spent on lines open for traffic. Of that expenditure £25,765,499 was defrayed from loans, and £766,623 from ordinary revenue.

Capital expended.

The rolling stock in the service of the Railway Department consisted of 208 locomotive engines for passenger traffic, and 198 for goods, or 426 in all; 1,007 passenger carriages, and 8,798 goods vehicles.

Rolling stock.

PRIVATE RAILWAY LINES.

In the Colony of New South Wales, the Government policy has hitherto been to keep the railways under State management and control, and this policy has been departed from in two instances only, with the exception of short lines to connect coal-mines with the main railways, &c. The Government granted permission to a company to construct a line from Deniliquin, in the centre of the Riverina district, to Moama, on the Murray, where it meets the railway system of Victoria. A considerable proportion of the wool and other produce of Riverina reaches the Melbourne market by this route. The line is 45 miles in length, and was constructed under a special Act of Parliament, assented to on the 3rd March, 1874. The land required was granted by the New South Wales

Deniliquin to Moama line.

Government, right being reserved in the Act for the purchase of the line by the Government at any time after twenty-one years from the passing of the Act. The capital of the Company is £125,000, of which £100,000 has been called up, while £50,000 was raised by debentures. The dividend paid during 1887 was at the rate of 10 per cent., but the rate for the previous years averaged only 8 per cent. Recently a line has been laid down from the Barrier silver mines, Silverton, and Broken Hill to the South Australian Border. The line, since its inception, has had large support.

Silverton and Broken Hill line

CITY TRAFFIC, TRAMWAYS, ETC.

Within the City of Sydney the public traffic, with the exception of the tramway system, which places the various suburbs in constant communication with the city, is controlled by Municipal regulations and by-laws, administered by the Transit Commissioners' Department, under the supervision of the Mayor and Aldermen. The tramways, like the railways, are the property of the Government, and are under the control of the Commissioner for Railways. There are five distinct systems of tramways in operation, having a total length of 51 miles, upon which has been expended for construction, land, and rolling stock, the sum of £923,608. The following table gives particulars of working during the year 1887 :—

Tramways.

Tramway system.	Length of line.	Capital expended.	Earnings.	Working expenses.	Net earnings.	Return on capital.
	Miles.	£	£	£	£	
Metropolitan	29·5	731,582	214,125	201,468	12,657	1·73
North Shore (cable)	1·5	71,504	7,274	6,859	415	0·58
*Kogarah and Sandringham..	5	13,253	396	494	‡ 98	‡2·42
†Newcastle and Plattsburg ..	7·5	62,104	3,949	4,128	‡ 179	‡0·63
Campbelltown and Camden..	7·5	45,165	4,029	2,090	1,939	4·29
Total............	51	923,608	229,773	215,039	14,734	1·67

* Open 3¾ months. † Open 5½ months. ‡ Loss.

Metropolitan lines.

rill be seen that the magnitude of the operations of the olitan tramways quite overshadows that of the other sys- There are ten lines open for traffic within the city and s, all having their terminus in Bridge-street; the length h line, with the cost of construction, as well as that of ery, rolling stock, and workshops is shown below.

Lines opened for Traffic.	Length in miles.	Total Cost.	Cost per Mile.
		£	£
y-station to Circular Quay	1¾	61,707	35,261
ol-street to Randwick and Coogee	5¼	105,791	20,150
hurst Junction to Waverley and Wooll- ra.	3½	48,993	13,999
ey to Bondi Beach	1¾	23,303	13,316
ey to Randwick	1½	8,147	5,431
street Junction to Cleveland-street	0¾	16,038	21,385
wn (Glebe Junction) to Marrickville	3¼	53,365	16,420
y-station to Glebe and Forest Lodge	2¼	38,021	16,898
Lodge to Leichhardt	2¾	35,575	12,936
y-station Junction to Botany	6¾	78,821	11,677
Average cost of construction	29½	469,764	15,924
ay Workshops	......	55,186	......
stock	......	194,202	......
ery	......	10,317	......
re	......	2,113	......
Average cost, all charges	29½	731,582	24,800

Interest on capital.

net return on capital has varied greatly from year to year. vourable results of the first three years encouraged the that the metropolitan tramways would prove a source of se to the general revenue of the Colony. These anticipa- however, have been far from realized, as will be seen from lowing table.

Metropolitan Tramways—Capital, Expenditure, and Interest realized.

Year.	Mileage.	Capital Expenditure.	Interest Received on Capital per cent.
		£	
1880	4	60,218	12·34
1881	9½	169,450	6·16
1882	22	412,561	6·80
1883	25	544,105	2·22
1884	27½	643,111	0·76
1885	27½	708,109	2·17
1886	27½	742,113	3·32
1887	29	731,582	1·76

Fare per mile.

The fares paid on the tramways average about 1d. per mil the lines being divided into sections of about 1 and 2 mil The number of persons using the tram-cars has not been asc tained with any exactness; as the tickets collected give only partial indication of the number travelling. It is estimated, ho ever, that during 1887 17,000,000 passengers were carried over lines.

The various sections of the tramways yield very differ returns, as may be seen from the following table:—

Tramway Lines.	Return paid on Capital.
Line to the Railway	2·64 per cent. gain.
Randwick and Coogee	2·11 " "
Waverley, Woollahra, and Bondi	3·30 " "
Newtown and Marrickville	6·89 " "
Leichhardt	6·13 " "
Crown-street	0·59 " loss.
Waterloo and Botany	3·69 " "
Glebe Point and Forest Lodge	5·34 " "

Omnibus traffic.

Besides the tramways the citizens of Sydney are well provid with other means of travelling within the city and suburb limits, as there are numerous omnibus and cab proprietaries. A the head of these stands the Sydney Tramway and Omnib Company. No tramways are maintained by this company, as i name would imply, but lines of omnibuses have been establish by it in all the principal routes of traffic from the city to the suburbs. This company has a working plant comprising 967 horses and 120 vehicles, and employs 290 men.

Other public conveyances.

Besides these, there are public vehicles belonging to private individuals, or small associations, plying between the city and some of the more distant suburbs, to the number of 122.

The number of cabs registered and licensed by the Transit Commissioners under the Municipal by-laws amounts to 1,098, in addition to which there are 416 vans and other vehicles; and the public interest is secured against exaggerated demands on the part of licensed cabmen, and other drivers of public vehicles, by a system of fares fixed on a scale liberal to the licensee, whilst not too high for the public to fairly pay. The drivers are placed under the direct control of the Transit Commissioners, who have power to obtain redress from the owners of the vehicles, should any just complaints be made against them.

POSTS AND TELEGRAPHS.

Postal and telegraphic communication.

In the matter of postal and telegraphic communication the Colony of New South Wales is liberally provided. Not only is the intercolonial telegraphic system as perfect as can be desired, but the metropolis is in direct communication with Europe and the outer world by means of the cables connecting with the various Asiatic continental telegraph lines.

Submarine cable.

A submarine cable also connects the Colony with New Zealand, and has its Australian terminus within sight of the spot where Captain Cook landed on the shores of Botany Bay, and within a stone's throw of the monument erected to the memory of La Pérouse—the unfortunate and gallant emulator of the great English navigator—and the tomb of Père Le Receveur, the botanist attached to his staff.

Steam communication with England.

Regular steam communication with England was established in 1852. Prior to that year the Colony was practically outside the limits of efficient postal service. In the year named, however, the steamships Australia, Chusan, and Great Britain were despatched from England, making the voyage in sixty days, and afforded means of communication which were soon rapidly developed. The time of delivery of mails from Sydney to London is now thirty-one days, and it is possible that the period will be yet further reduced.

Communication with Europe and America.

From Sydney, four great lines of ocean steamships—the Peninsular and Oriental Company, the Orient Company, the Messageries Maritimes of France, and the steamers of the North German Lloyd's—carry mails from Australia to England and the continent of Europe, whilst a direct line of steamers under contract with the Governments of New South Wales, New Zealand, and America, carry the mails to New Zealand and the United States. Besides these means of communication with the Old World, the intercolonial and local lines of telegraph are numerous and efficient. There is not a township of any importance which is not connected with the metropolis by wire, or that is not reached either by train or coach.

Telegraph lines.

At the end of December, 1887, there were in the Colony 21,444 miles of telegraphs in operation, and the total cost of the construction of the various lines reached the sum of £684,600. There were 434 telegraph stations, and the total amount earned by the system of telegraphs was £187,858.

Subsidies for mail contracts

The Government of the Colony pays an annual subsidy of £15,118 to the submarine cable companies; and for the carriage of mails and parcels, coming under the parcels post arrangements, a sum of £98,738 was also paid to the Peninsular and Oriental, Orient, American, and other steam companies carrying mails to Europe. Throughout the principal parts of the country the mails are carried by the railway authorities, and, where no communication exists by rail, by contract with the proprietors of coaching lines. In more remote districts, where there are no lines of coaches established, as on the sheep and cattle stations of the far interior, a service has been organized by means of horsemen, who contract with the Government to carry the mails to the furthest points. The newspapers published in the Colony are carried free of charge by the postal authorities, and newspaper literature forms a very large part of the mental pabulum of the ordinary bushman. The following return shows the operations of the Post Office during the twelve years ending 31st December, 1887.

Details of working.

Number of Offices, Employés, Income, Expenditure, &c., of New South Wales Post Office.

Year.	Number of Post Offices.	Number of Receiving Offices.	Number of Persons Employed.	Number of Miles travelled by Mail Conveyance.	Extent of Postal Lines in Miles.	Income.	Approximate Expenditure.
						£	£
1876	782	18	1,090	3,891,906	18,418	128,642	206,799
1877	810	48	1,180	4,095,530	19,508	154,171	226,305
1878	847	75	1,272	4,389,925	20,176	155,622	248,217
1879	884	101	1,452	4,776,925	21,368	171,367	263,788
1880	927	119	1,536	5,246,373	22,427	194,084	268,128
1881	973	155	1,691	5,467,182	23,094	205,446	273,451
1882	1,005	169	1,824	5,861,317	23,923	229,911	288,186
1883	1,046	188	1,960	6,264,300	25,162	261,813	326,674
1884	1,085	206	2,076	6.509,446	26,430	289,192	351,254
1885	1,115	202	2,155	6,621,996	26,683	316,172	375,965
1886	1,157	217	2,307	6,891,200	27,094	330,591	396,710
1887	1,167	263	2,363	7,015,600	27,514	342,094	426,587

Postal business carried on at a loss.

These figures show that the Postal Department is carried on at a yearly loss to the State of several thousand pounds. This loss has marked the operations of the department for many years, and is due to the wide area over which the population is scattered throughout the country, thus considerably increasing the cost of carriage of the mails, as well as to the fact that newspapers, which form the bulk of the mail matter, are carried free. It is held, nevertheless, that the public must be served at any price, and the safe and regular despatch and delivery of mails is an item of too great importance in the political, commercial, and social life of the Colony to be neglected, even if its efficiency is obtained at the cost of an annual loss to the revenue. An idea of the magnitude of the work discharged by the New South Wales Post Office may be gathered from the following return :—

Letters, Newspapers, &c., passing through the Post Office of New South Wales.

Year.	Number of Letters.		Number of Newspapers.		Packets and Book Parcels.		Total.		
	Foreign.	Inland and town.	Foreign.	Inland.	Foreign.	Inland.	Letters.	Newspapers.	Packets, &c.
1876	1,852,400	12,614,500	1,508,300	5,408,900	109,500	304,400	14,466,900	6,917,200	413,900
1877	1,979,500	14,529,500	1,652,000	6,733,000	135,000	263,600	16,509,000	8,385,000	398,600
1878	2,220,600	15,939,300	1,657,600	7,811,600	133,100	403,700	18,159,900	9,469,200	536,800
1879	2,442,700	16,964,600	2,020,000	9,447,100	136,300	459,200	19,407,300	11,467,100	595,500
1880	2,776,000	18,956,500	2,381,200	11,409,800	146,600	565,000	21,732,500	13,791,800	711,600
1881	3,159,400	23,196,200	2,726,400	13,801,500	180,500	670,800	26,355,600	16,527,900	851,300
1882	3,589,200	25,737,300	2,720,600	15,361,700	218,600	1,044,200	29,326,500	18,082,300	1,262,800
1883	4,168,100	31,258,300	3,014,500	16,562,800	269,700	1,379,200	35,426,400	19,577,300	1,648,900
1884	4,947,200	37,289,800	3,689,600	21,373,900	316,200	2,705,900	42,237,000	25,063,500	3,022,100
1885	5,328,200	34,023,000	3,987,900	21,579,500	552,600	2,894,200	39,351,200	25,567,400	3,446,800
1886	5,582,700	37,267,200	4,276,300	25,256,100	865,800	3,983,000	42,849,900	29,532,400	4,848,800
1887	5,624,000	39,221,900	4,744,400	29,437,200	980,800	4,549,900	44,845,900	34,181,600	5,530,700

Increase of Postal business.

The growth of the business of the Postal Department within the last ten years has been very remarkable. The increase in the number of letters despatched—viz., from 14,466,900, in 1876, to 44,845,900, in 1887,—is certainly considerable, but is not nearly so great as the increase in the number of newspapers and packets carried by the Post Office, which in the former case rose from 6,917,200, in 1876, to 34,181,600, in 1887; and in the latter, from 413,900, to 5,530,700. Compared with the other provinces of Australasia and with the United Kingdom, New South Wales appears with considerable advantage in regard to the number of letters and newspapers received per head of population, as may be seen from the following table:—

Country.	Number delivered per head of population.	
	Letters.	Newspapers and packets.
New South Wales*	44	39
Victoria	33	18
Queensland	32	32
South Australia	48	26
Western Australia	54	31
Tasmania	32	32
New Zealand	69	33
Australasia	43	28
United Kingdom*	39	14
England and Wales*	44	15
Scotland*	32	14
Ireland*	19	7

* Year 1887. Others, 1886.

Telegraphic business.

The telegraph lines also show a proportionate increase in the number of telegrams transmitted and the amounts received for the same, as illustrated in the following table, which gives a retrospective idea of the business of the Telegraph Department from 1876 to 1887.

Electric Telegraphs.

Year.	No. of Stations.	No. of Telegrams.	Total Receipts.	*Revenue received.	No. of miles of Wire.	Cost of construction.
			£	£		£
1877	190	1,001,884	96,357	65,645	9,761	343,973
1878	236	1,132,287	98,125	76,227	11,760	413,258
1879	273	1,175,218	103,033	80,490	12,426	437,120
1880	289	1,319,537	123,172	84,110	13,188	462,226
1881	318	1,607,206	125,336	98,665	14,278	492,211
1882	345	1,965,931	153,555	120,266	15,901	536,399
1883	368	2,107,288	165,276	134,643	17,272	564,316
1884	394	2,334,052	176,261	146,386	18,681	601,460
1885	404	2,625,992	191,192	155,073	19,864	641,669
1886	425	2,661,126	184,053	158,128	20,797	666,028
1887	434	2,876,504	187,858	164,511	21,444	684,600

* Proportion of receipts due to the Colony.

Telegraphs in New South Wales and United Kingdom.

The following table shows the extension of the telegraph system throughout the various colonies, and a comparison with the United Kingdom. It also shows the extent to which the facilities for telegraphing are availed of in each country. It will be seen that New South Wales has the largest mileage of line of any of the colonies, as well as the largest telegraphic business.

Colony.	Miles of line.	Miles of wire.	Telegrams received and despatched.	
			Number.	Per head of the population.
New South Wales	10,721	21,444	2,876,504	2·8
Victoria	4,094	10,111	1,938,049	1·9
Queensland	8,772	15,677	515,357	4·2
South Australia	5,416	9,388	757,363	2·4
Western Australia	2,548	2,821	315,197	8·4
Tasmania	1,816	2,407	233,811	1·5
New Zealand	4,646	11,375	1,835,394	3·2
Australasia	36,897	72,497	9,051,691	2·6
United Kingdom	29,895	173,539	50,243,639	1·4
England and Wales	....	....	42,320,185	1·5
Scotland	....	....	5,106,774	1·3
Ireland	....	....	2,816,680	0·6

PART XVI.

Law and Crime.

THE law of New South Wales permits proceedings against any person charged with crime to be initiated either by arrest or by summons. During 1887, there were 72,119 cases dealt with by the magistrates; in 44,094 of these, the persons charged with offences were arrested, and in 21,992 cases they were summoned by the police; while in the remaining 6,033 cases proceedings were taken by private persons.

ARRESTS.

Persons brought before magistrates.

Out of 72,119 persons brought before the magistrates of the Colony 70,717 were dealt with summarily, and convictions recorded in 53,614 cases; while 17,103 cases were dismissed either on their merits, or for want of prosecution; in the remaining cases, 1,402 in number, the persons concerned were committed for trial in the higher Courts of the Colony. Dividing the offences into three sub-divisions—those committed against the person, those against property, and offences against good order or government—the numbers of persons brought before the Magistrates' Courts, and the manner in which they were dealt with during 1887, were as follows:—

Number of Persons dealt with by Magistrates.

Offences.	Total number of persons brought before the Magistrates' Courts.	Number of persons.			
		Discharged for want of prosecution or want of evidence.	Whose cases were dismissed on the merits.	Summarily convicted.	Committed for trial.
Against the person........	8,903	2,485	1,356	4,667	395
Against property	8,017	1,977	1,288	3,876	876
Other cases*	55,199	6,476	3,521	45,071	131
Total number of persons summoned or apprehended......	72,119	10,938	6,165	53,614	1,402

* Not including cases brought up for lunacy.

Summary convictions.

Civil actions are not included in the above table, but it includes arrest or summonses for breaches of various Acts, and for other offences, which, from a moral point of view, can hardly be reckoned crimes, although they are such in the eyes of the law. The total number of summary convictions for all offences shows a considerable decrease during 1887, being 53,614 as compared with 62,268 in the previous year; for, although there was an increase in the number of persons convicted of offences against property, the number found guilty of offences against the person and against good order was much less than for many years past. The following table gives the number of summary convictions before magistrates during the past twelve years :—

Summary Convictions before Magistrates.

Year.	Offences against the person.	Offences against property.	Other Offences.	Year.	Offences against the person.	Offences against property.	Other Offences.
1876	3,931	2,694	23,779	1882	5,350	4,014	40,762
1877	4,567	2,788	25,648	1883	6,257	3,395	45,811
1878	5,014	3,087	29,823	1884	5,810	3,594	48,502
1879	4,885	3,217	30,726	1885	5,159	3,649	50,537
1880	5,151	3,286	33,768	1886	5,187	3,676	53,405
1881	5,239	3,453	42,438	1887	4,667	3,876	45,071

Arrests by police.

The number of arrests made by the police was less during 1887 than in either of the two previous years, and the percentage of the whole population was smaller than in any year given in the table below.

Arrests by Police.

Year.	Arrests.	Proportion of whole population.	Year.	Arrests.	Proportion of whole population.
1876	26,993	4·46	1882	39,758	5·00
1877	28,349	4·50	1883	43,177	5·17
1878	30,718	4·66	1884	46,199	5·24
1879	32,860	4·75	1885	48,261	5·18
1880	35,774	4·92	1886	48,854	4·99
1881	41,402	5·44	1887	44,094	4·31

The number of police in the Colony during the years 1884-87 was

Number of Police.

Year.	Metropolitan.	Country.	Total.
1884	423	947	1,370
1885	466	977	1,443
1886	476	986	1,462
1887	502	989	1,491

Considering the large area of the Colony, the number of police required for the protection of life and property in New South Wales compares favourably with the other colonies. The following figures show the proportion to the total population of each of the colonies, with the exception of Western Australia :—

New South Wales	1 police to	686	civilians.
Victoria	,,	749	,,
Queensland	,,	389	,,
South Australia	,,	739	,,
Tasmania	,,	444	,,
New Zealand	,,	1,224	,,

The ages of persons arrested for various classes of offences during the year 1887 are given below. It will be seen that the most serious offences were committed by persons between the ages of 20 and 30, while those against good order, consisting chiefly of drunkenness, were committed by persons from 30 to 50 years.

Ages and offences of persons arrested.

Ages of Persons Arrested.

Offences.	Ages of persons apprehended.							Total apprehensions.
	Under 15	15-20	20-30	30-40	40-50	50-60	Over 60	
Against the person	14	234	1,243	727	398	146	58	2,820
Against property, with violence	9	52	149	48	23	10	3	294
Against property, without violence	339	732	2,022	1,115	576	228	114	5,126
Forgery and offences against the currency	3	18	49	37	9	7	7	130
Against good order, including drunkenness	439	1,597	9,009	9,385	7,239	3,927	2,157	33,753
Not included in the preceding	25	14	675	530	354	168	79	1,971
[illegible]	[illegible]	[illegible]	3,147	11,842	8,599	4,486	2,418	44,094

The number of arrests of persons at each period of life, with the exception of under 15, was less than in 1886.

Ages of offenders.

The proportion of offences committed at the respective ages is given below, and while the percentage of juvenile offenders is slightly higher than in the preceding three years, the proportion is less than for some years previously.

Percentage of Arrests at various Ages to Total Arrests.

Year.	Years 10-15.	Years 15-20.	Years 20-30.	Years 30-40.	Years 40-50.	Years 50-60.	Years over 60.
1879	2·20	6·76	28·24	27·93	19·18	9·33	3·36
1880	2·12	6·94	29·24	26·90	18·69	9·77	6·34
1881	2·11	5·43	28·98	27·22	20·31	9·74	6·21
1882	1·93	4·83	27·82	26·58	20·79	10·69	7·36
1883	1·94	5·80	28·98	26·08	20·45	10·40	6·35
1884	1·68	5·81	29·51	26·02	20·35	10·61	6·01
1885	1·73	5·38	30·25	26·47	20·42	9·77	5·98
1886	1·64	5·90	29·98	26·13	20·54	10·28	5·53
1887	1·88	6·29	29·82	26·86	19·50	10·17	5·48

Absence of serious crime amongst native-born population.

The native-born population of New South Wales probably numbers not less than 64 per cent. of the whole, while the persons arrested during 1887 who were born in the Colony numbered 13,263 out of a total of 44,094 arrests, or 30·08 per cent. The native countries of all persons apprehended during 1887 will be found in the following table, as well as the offences for which the arrests were made :—

Birthplaces of Persons Apprehended,

Country.	Against the person.	Against property, with violence.	Against property without violence.	Forgory and offences against the currency.	Against good order, including drunkenness.	Not included above.	Total.
New South Wales	1,136	145	2,237	43	9,149	553	13,263
Other Australian Colonies	219	35	480	3	1,869	138	2,744
England	518	55	1,015	39	7,861	468	9,956
Ireland	507	20	671	13	9,375	439	11,025
Scotland	160	7	247	5	2,912	123	3,454
Other British possessions	32	7	71	2	419	30	561
France	14	1	30	3	202	15	265
Germany	39	2	63	15	311	43	473
China	57	9	87	1	223	36	413
Other foreign countries	138	13	225	6	1,432	126	1,940
Total	2,820	294	5,126	130	33,753	1,971	44,094

The nominal religious profession of each person arrested is ascertained and entered in the charge-sheet. During 1887 the arrests of persons belonging to each of the various denominations were :—

Religions of Persons Apprehended, 1887.

Religion.	Against the person.	Against property, with violence.	Against property, without violence.	Forgery and offences against the currency.	Against good order, including drunkenness.	Not included above.	Total.
Church of England....	1,032	113	2,235	62	12,246	816	16,504
Presbyterians	222	18	361	11	3,291	143	4,046
Wesleyans.............	50	6	124	1	430	35	646
Independents	1	....	10	....	162	5	178
Baptists.....	9	1	24	2	61	10	107
Other Protestants......	55	12	88	11	605	37	808
Roman Catholics	1,281	124	2,037	29	15,589	814	19,874
Jews	8	....	37	9	55	10	119
Pagans	51	11	90	1	223	30	406
Other persuasions, or religion, unknown..	111	9	120	4	1,091	71	1,406
Total........	2,820	294	5,126	130	33,753	1,971	44,094

Education of persons arrested.

The degree of education of those who were arrested has also been obtained as far as possible. Four grades of education are adopted for classification purposes, and the number comprised in each class during the years from 1876 to 1887 is given below.

Degrees of Education of Persons Arrested.

Year.	Neither read nor write.	Read only.	Read and write.	Superior education.	Total arrests.
1876	3,841	1,320	21,832	....	26,993
1877	3,842	1,269	23,238	....	28,349
1878	4,017	1,529	25,172	....	30,718
1879	3,493	1,230	27,984	153	32,860
1880	4,065	1,197	30,350	162	35,774
1881	4,034	1,123	36,083	162	41,402
1882	4,059	964	34,553	182	39,758
1883	3,859	1,058	38,071	189	43,177
1884	3,871	1,096	41,030	202	46,199
1885	3,925	937	43,185	214	48,261
1886	4,142	916	43,588	208	48,854
1887	3,873	709	39,295	217	44,094

Effect of education on crime.

A superficial glance at the figures would seem to show that the progress of education has not been attended with that decrease in crime which the friends of education confidently assert follows in its train. This view of the case is quite untenable, for although the proportion of persons arrested who can read and write has much increased of late years, this is due to the spread of education even amongst those whose environment offers inducement to the commission of crime.

The following table gives the percentage of persons arrested of each degree of education from 1876 to 1887 :—

Year.	Neither read nor write.	Read only.	Read and write.	Year.	Neither read nor write.	Read only.	Read and write.
1876	14·22	4·89	80·89	1882	10·20	2·42	87·38
1877	13·55	4·47	81·98	1883	8·93	2·45	88·62
1878	13·07	4·97	81·96	1884	8·37	2·37	89·26
1879	10·62	3·74	85·64	1885	8·13	1·94	89·93
1880	11·36	3·34	85·30	1886	8·49	1·87	89·64
1881	9·74	2·71	87·55	1887	8·78	1·61	89·61

Effect of education on crime.

The best proof of the effect of the spread of education on crime is the notable decrease in the number of committals and convictions for serious offences, which has for many years been observable. Although the direct effect of the spread of enlightenment cannot be otherwise gauged, there is ample evidence to warrant the assumption that education is doing its work as an active leaven throughout the community.

Drunkenness.

The question of the relative prevalence of drunkenness, as tested by the number of persons arrested for that offence in the different colonies, has received of late no little attention, and it would appear that New South Wales in this regard holds a bad pre-eminence. The number of arrests for drunkenness per 1,000 of population in the different colonies, compiled over a period of ten years, was :—

Arrests for Drunkenness in Australian Colonies.

	Arrests, per 1,000 of population.
New South Wales	26·7
Victoria	13·7
Queensland	15·8
South Australia	15·2
Tasmania	13·9
New Zealand	14·9

Deduction from number of arrests misleading.

These figures are entirely misleading as far as their application to the question of the comparative sobriety of the different colonies is concerned, and if they convey any meaning at all, it is that the stringency of the laws, or their administration, is greater in the proportion of nearly two to one in New South Wales than in almost any other colony. The proof of this is not far to seek. The consumption of intoxicants per head is largest in Victoria, where the least proportion of arrests are made, while New South Wales has a consumption less than any other Colony, New Zealand and Tasmania excepted, as will be seen from the following table.

Consumption of intoxicants in the various Colonies.

Consumption of Intoxicating Drink.

Colony.	Average consumption per head.			
	Spirits.	Beer.	Wine.	Total equivalent in alcohol (proof)
	Gallons.	Gallons.	Gallons.	Gallons.
New South Wales*	1·20	12·85	0·72	3·23
Victoria*	1·09	16·29	1·24	3·80
Queensland	1·81	10·16	0·62	3·39
South Australia	0·80	14·37	1·59	3·32
New Zealand	0·87	8·61	0·26	2·18
Tasmania	0·70	10·00	0·14	2·17

* 1886. Other colonies, 1885.

These figures at once dispose of the theory so persistently put forward as to the excessive prevalence of drunkenness in New South Wales, and the more effectually when it is borne in mind that the number of males engaged in laborious work is far larger here than in any other colony.

Arrests for drunkenness in towns.

The persons arrested for drunkenness are chiefly residents in or near large towns, and it is only natural to expect that, with an increase in the number and population of the towns, there will be an increase in the arrests for drunkenness. The number of arrests during each year since 1876 is shown in the following table, and it will be satisfactory to note the great decrease in the percentage of females arrested. And as the proportion of males arrested has maintained a high percentage for many years, due possibly to the

Female drunkards decreasing.

greater increase in the urban than in the rural population, and consequently the larger number of persons whose inebriety has come under the attention of the local police, it is very gratifying to find a considerable falling off in 1887, both of the total number and the percentage to the population.

Persons Arrested for Drunkenness, with percentage of Total Population.

Year.	Total arrests.	Males.	Females.	Percentage of total arrests to whole population.	Percentage of males arrested to total male population.	Percentage of females arrested to total female population.
1876	16,171	12,546	3,625	2·67	3·82	1·31
1877	16,696	12,726	3,970	2·65	3·72	1·38
1878	17,224	13,166	4,108	2·61	3·67	1·37
1879	17,715	13,574	4,141	2·56	3·61	1·31
1880	18,777	14,801	3,976	2·58	3·72	1·21
1881	22,560	18,200	4,360	2·96	4·36	1·26
1882	21,393	17,574	3,819	2·69	4·03	1·06
1883	23,178	19,244	3,934	2·77	4·21	1·04
1884	24,438	20,261	4,177	2·77	4·19	1·04
1885	26,291	21,944	4,347	2·82	4·29	1·03
1886	26,310	21,879	4,431	2·69	4·06	1·01
1887	22,706	19,229	3,477	2·22	3·42	·76

Consumption of spirits per head.

The quantity of spirits consumed per head of population in 1886 was hardly 75 per cent. of the consumption ten years previously, and the decline has been fairly regular, as will be seen from the following table:—

Consumption of Spirits per Head.

Year.	Imported.	Colonial.	Total.	Year.	Imported.	Colonial.	Total.
	Gallons.	Gallons.	Gallons.		Gallons.	Gallons.	Gallons.
1877	1·61	·026	1·64	1882	1·45	·012	1·46
1878	1·65	·012	1·66	1883	1·43	·024	1·45
1879	1·49	·011	1·50	1884	1·41	·020	1·43
1880	1·37	·017	1·38	1885	1·29	·015	1·30
1881	1·45	·008	1·46	1886	1·19	·010	1·20

Consumption of spirits decreasing.

There has also been, in all probability, a falling off in the amount of beer and wine consumed, but the statistics which would illustrate this view are available for only a few years. The total amount of intoxicants consumed in the Colony can best be compared by reducing the various kinds of drink to the common level of proof spirit. The average consumption of spirit per inhabitant during the years 1883-86 was—

Year.	Gallons.
1883	3·52
1884	3·53
1885	3·37
1886	3·23

Decrease in drunkenness.

Taking all circumstances into view it is probable that the amount of drunkenness in the Colony is decreasing. The number of persons who render themselves liable to arrest may be fairly assumed to be in direct proportion to the amount of intoxicants consumed, and a decrease in consumption is necessarily a sign of increased sobriety.

Habitual drunkenness.

The offence of habitual drunkenness has declined perceptibly, as will be seen from the following table, showing the number of persons arrested, with percentage of arrests to total arrests for drunkenness, 1879-87. It will be seen that fewer persons were arrested during 1887 than during the earlier period, from 1879 to 1882.

Habitual Drunkenness.

Year.	Number.	Percentage of arrests to total arrests for drunkenness.	Year.	Number.	Percentage of arrests to total arrests for drunkenness.
1879	136	0·76	1884	108	0·44
1880	107	0·56	1885	116	0·44
1881	101	0·54	1886	113	0·43
1882	141	0·65	1887	119	0·52
1883	100	0·43			

PUNISHMENTS.

Punishments inflicted by magistrates.

Of the 72,119 persons brought before the magistrates of the Colony during 1887, 53,614 were summarily convicted, and of these 4,509 were imprisoned without the option of a fine, while three of the latter were whipped. In the great majority of cases fines were inflicted, or imprisonment with the option of paying a fine instead. The nature of the punishments, with the offences for which they were awarded, are given in the following table, for the year 1887.

Number of Summary Convictions, Nature of Offences and of Punishments inflicted by Magistrates in 1887.

Punishment.	Total number of punishments.	For offences against the person.	For offences against property.	For other offences.
Fine...	28,079	2,678	1,267	24,134
Imprisonment, in lieu of fine or surety...	18,667	968	553	17,146
Peremptory imprisonment ...	4,506	542	1,849	2,115
Whipping ...	3	1	....	2
Imprisonment, with whipping	....	....	....	....
Bound over, with or without sureties...	349	183	32	134
Other punishments...	2,010	295	175	1,540
Total...	53,614	4,667	3,876	45,071

Cases in which fines were inflicted.

The number of persons fined, with the alternative of imprisonment, was 18,667; and of these 8,748 availed themselves of the option of paying the fine. The remaining 9,919 suffered imprisonment, in addition to 4,509 sentenced to peremptory imprisonment, or to be whipped, making a total of 14,428 persons imprisoned, out of 53,614 summarily dealt with by the magistrates, or 27 per cent. Adding 28,079, the number fined (levy and distress) to 8,748, the number who paid rather than be incarcerated, gives 36,827, the total number of fines paid during the year.

Decrease in committals for trial.

Omitting from consideration summons cases, and dealing only with arrests by the police, three facts are noticeable—that the percentage of arrests to the total population has fluctuated considerably during the past ten years, though there has been a slight tendency towards decrease of late years; that the number of convictions obtained is now proportionately greater than formerly; and that the number of committals for trial to the superior courts shows a remarkable tendency to decrease. The following table gives the average for twelve years:—

Convictions increasing.

Proportion of Convictions and Committals in Magistrates' Courts, compared with Arrests.

Year.	Arrests.	Summarily convicted.	Summarily acquitted or discharged.	Committal
	Percentage of arrests to the whole population.	Percentage of summary convictions to total arrests.	Percentage of those acquitted or discharged to total arrests.	Percentage to total arrests.
1876	4·46	72·12	23·20	4·68
1877	4·50	73·09	22·07	4·83
1878	4·66	75·58	18·94	5·48
1879	4·75	77·63	17·52	4·85
1880	4·92	76·94	18·36	4·70
1881	5·44	79·86	16·29	3·82
1882	5·00	78·94	17·07	3·99
1883	5·17	82·08	14·26	3·66
1884	5·24	80·99	15·59	3·42
1885	5·18	82·89	14·07	3·04
1886	4·99	82·24	14·79	2·97
1887	4·31	81·57	15·33	3·10

The proportion of offences deemed of sufficient gravity to be tried by a jury has largely decreased during the past twenty-five years, and the proportion of prisoners convicted also shows a substantial reduction. This will be plainly seen from a consideration of the following table.

Decrease in committals for trial.

Committals and Convictions.

Year.	Committals for trials.	Convictions.	Proportion of population committed.	Proportion of population convicted.
			Per 10,000 of population.	Per 10,000 of population.
1861	820	437	23·2	12·3
1862	879	514	24·2	14·1
1863	887	497	23·8	13·3
1864	975	590	25·3	15·3
1865	1,123	686	27·7	19·9
1866	1,255	770	29·9	18·3
1867	1,180	702	27·0	16·0
1868	1,006	601	22·1	13·2
1869	1,112	682	23·5	14·4
1870	1,037	601	21·1	12·2
1871	1,084	628	21·3	12·3
1872	1,073	643	20·3	12·2
1873	1,166	647	21·4	11·8
1874	1,311	700	23·2	12·4
1875	1,245	707	21·2	12·0
1876	1,391	822	23·0	13·6
1877	1,411	829	22·4	13·1
1878	1,740	959	26·4	14·5
1879	1,743	1,090	25·2	15·7
1880	1,717	1,148	23·6	15·8
1881	1,626	1,058	21·3	13·9
1882	1,724	1,065	21·6	13·4
1883	1,606	1,008	19·2	12·0
1884	1,550	928	17·5	10·5
1885	1,540	785	16·5	8·4
1886	1,594	957	16·2	9·7
1887	1,402	854	13·7	8·3

Convictions of persons committed.

It will be seen that the number of convictions averaged no more than 60·3 per cent., while for the past twelve years th proportion convicted or discharged, per hundred persons committed for trial, was as follows :—

Percentage of Convictions.

Year.	Percentage of committals.		Year.	Percentage of committals.	
	Convicted.	Acquitted or discharged.		Convicted.	Acquitted or discharged.
1876	59·09	40·91	1882	61·77	38·23
1877	58·75	41·25	1883	62·76	37·24
1878	56·11	44·89	1884	59·87	40·13
1879	62·54	37·46	1885	50·97	49·03
1880	66·86	33·14	1886	60·04	39·96
1881	65·07	34·93	1887	60·91	39·09

Causes of apparent high rate of crime.

The convictions in the higher courts of New South Wales, taken over a series of years, greatly exceed, both in number and in proportion, those of any other Colony. So marked is this fact that much speculation has been indulged in as to the probable cause of the anomaly. It is admitted that the people of all the colonies are practically derived from the same stock, while their occcupations are fairly alike, and a theory has been hazarded that the high rate of crime in New South Wales is due to a blood taint derived from the original bond-population of this Colony. Such theory is manifestly erroneous, as Tasmania, the colony which received proportionately the largest number of convicts, and whose population has been least diluted by immigration, has the most favourable record since 1876, as will be seen from the following table, which gives the rates of convictions from the year named to the latest available date. Western Australia has been omitted from the comparison, as its sparse population and peculiar situation would warrant the anticipation of a large amount of crime of a kind not found in the older settled colonies.

Crime in other Colonies.

Convictions after Trial in Australasian Colonies.

	Per 10,000 of population.
New South Wales	12·30
Victoria	4.50
Queensland	7·80
South Australia	6·99
Tasmania	4.44
New Zealand	5·74

Gold-fields attracted criminal population.

Besides this, Victoria stands second lowest on the list, and there is every testimony that the large gold-finds of that colony, in the years succeeding the final cessation of transportation, attracted the worst classes of all these settlements, especially of New South Wales and Tasmania, and it is very improbable that this population returned. There is, however, no evidence that such a population now exists anywhere in these colonies: it certainly does not exist in New South Wales. But, though the gratuitous theory above alluded to may be easily disposed of, the fact remains that the largest proportion of convictions in the higher courts occurs in New South Wales.

Criminals come chiefly from floating population.

There has been in New South Wales for many years a large population whose abode in any district is determined by the existence of a demand for unskilled labour, and it is from the ranks of this floating population, that a large proportion of the persons convicted of crime is derived. All the colonies have, to a greater or less extent, this class of population; but in New South Wales it is numerically the largest. As these people settle down to regular employment in a fixed abode and acquire interests apart from the excitements of an unsettled life, crime will be found to diminish. The neighbouring colony of Victoria, where the decrease of convictions has steadily kept pace with the settlement of its population, may be cited as an example of this truth, the percentage of convictions being now reduced to about 4·5 per ten thousand, as compared with 4·8 in 1876, and 10·1 in 1866.

Strict administration of law ni N. S. Wales.

The laws relating to crime are somewhat similar in all the colonies; but the administration of these laws may possibly be more rigorous in New South Wales than in any other colony. This has already been shown to be the case in regard to drunkenness, and offers an additional explanation of the large number of convictions obtained in New South Wales.

Capital punishment.

Executions have been less numerous of late years than formerly, the death penalty being awarded in only a small proportion of cases wherein the death sentence has been pronounced. The number of executions for twelve years is given below.

Number of Criminals Executed.

Year.	Number.	Year.	Number.	Year.	Number.
1876	4	1880	4	1884	2
1877	2	1881	2	1885	3
1878	1	1882	3	1886	2
1879	1	1883	1	1887	4

Gaols accommodation.

There are in New South Wales 56 gaols of all kinds; of these 37 are distinguished as police gaols. There is accommodation for 1,431 prisoners in separate cells, and for 3,664 when more than one prisoner sleeps in a cell. On the 31st December, 1887, there were 2,380 prisoners in confinement, thus distributed.

Prisoners and Prison Accommodation.

Prisons.	Prisoners.	Accommodation—one prisoner per cell.	Accommodation—more than one prisoner per cell.
Gaols	2,175	1,230	2,941
Police Gaols	205	201	723
Total	2,380	1,431	3,664

Decrease of prisoners.

The total number of prisoners received into the various gaols throughout the Colony during the year 1887 was 18,787—a lesser number than in either of the three previous years. More than half of these were received at Darlinghurst Gaol, Sydney. As many were detained for only short periods, the above total may appear large compared with the average number in confinement at any one time. The following table gives the number of prisoners received into gaol from 1882 to 1887.

Prisoners Received into Gaol.

Year.	Males.	Females.	Total.
1882	13,088	4,325	17,413
1883	11,220	4,262	15,482
1884	15,824	4,574	20,398
1885	15,853	4,833	20,686
1886	15,653	4,921	20,574
1887	14,560	4,227	18,787

Prisoners in confinement.

The average number of persons in confinement during the year has not been ascertained, but the number in detention at the close of each year is known, and the figures for the past twelve years will be found below. Prisoners have been classified under two heads—those under sentence, and those awaiting trial. The respective numbers of each of these classes for the period named were :—

Prisoners in Confinement at the close of Each Year.

Year.	Total persons in confinement.	Male.	Female.	Under sentence.			Awaiting trial.		
				Male.	Female.	Total.	Male.	Female.	Total.
1876	1,490	1,267	223	1,154	203	1,357	113	20	133
1877	1,521	1,293	228	1,137	209	1,346	156	19	175
1878	1,781	1,512	269	1,318	251	1,569	194	18	212
1879	1,951	1,641	310	1,465	291	1,756	176	19	195
1880	2,121	1,759	362	1,610	349	1,959	149	13	162
1881	2,075	1,753	322	1,611	309	1,920	142	13	155
1882	1,935	1,646	289	1,497	274	1,771	149	15	164
1883	2,168	1,826	342	1,684	330	2,014	142	12	154
1884	2,464	2,115	349	1,966	337	2,303	149	12	161
1885	2,559	2,222	337	2,084	328	2,412	138	9	147
1886	2,501	2,119	382	2,018	369	2,387	101	13	114
1887	2,380	2,053	327	1,919	316	2,235	134	11	145

Classification of offences.

The prisoners under sentence may be divided into four classes according to the description of offence for which they were convicted, as in the following table :—

Offences of Prisoners under Sentence at close of Each year.

Year.	Felony.		Petty larceny.		Assaults.		Other offences.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1876	708	34	160	21	78	4	208	144
1877	798	57	81	16	32	3	226	133
1878	855	51	127	22	50	4	286	174
1879	911	42	176	29	70	21	308	199
1880	950	34	189	31	106	8	365	276
1881	825	18	201	15	78	5	508	271
1882	844	25	168	18	89	3	396	228
1883	802	47	263	26	138	15	481	242
1884	949	33	295	29	140	6	582	269
1885	1,047	33	307	47	162	10	568	238
1886	1,070	40	296	32	121	11	531	286
1887	1,042	30	221	28	137	3	519	255

Felons under arrest.

The number of felons detained under sentence was larger in 1886 than in any year of the series, and, although 1887 presents a more favourable record than either of the two previous years, it will be seen by the above table that a notable increase has taken place since 1883. This advance does not denote an increase in crime—for, as already shown, serious crime is decreasing in the community—but points rather to longer sentences. The increase in the term served by prisoners is due to the Criminal Law Amendment Act, which came into force on the 1st day of July, 1883, but sufficient time has not elapsed since the passing of the Act to trace any effect from its operations, beyond the increase in the term which felons are required to serve. The following table shows the average time served by each prisoner sentenced for felony.

Average Term of Imprisonment served by Prisoners under Sentence for Felony.

Year.	Average sentence.	Year.	Average sentence.
	Years.		Years.
1876	1·23	1882	1·22
1877	1·55	1883	1·20
1878	1·39	1884	1·40
1879	1·27	1885	1·72
1880	1·21	1886	1·48
1881	1·15	1887	1·60

Ages of prisoners in gaols.

As in the case of the arrests, the largest number of prisoners at any age-period are those whose ages range from 20 to 30 years; but, proportionately to the numbers of the population, the ages of middle life, namely, from 30 to 50 years, are most productive of criminals. The following table gives, not only the number of offences committed by persons of various ages, but also the actual number of persons convicted at each age-period. From a combination of these figures, the particulars given in the last column have been obtained, showing the average number of sentences inflicted on persons at various ages.

Ages of Prisoners sentenced to Imprisonment.

Ages.	Total Offences.			Distinct Offenders.			Average number of Convictions to each person.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Under 10	8	4	12	8	4	12	1·00	1·00	1·00
10–20	918	270	1,188	670	157	827	1·37	1·72	1·44
20–30	3992	1,139	5,131	2,718	483	3,201	1·47	2·36	1·60
30–40	2874	1,088	3,962	1,991	416	2,407	1·44	2·61	1·65
40–50	1940	757	2,697	1,352	297	1,649	1·43	2·55	1·63
50 and upwards	1822	470	2,292	1,290	212	1,502	1·41	2·22	1·52

Female convictions larger than male.

The above table presents several remarkable features. The average number of convictions is considerably larger amongst females than amongst males, especially in the ages over 30 years.

That there should have been twelve children under 10 years of age imprisoned is at least anomalous, but it is probable that the practice of sending children to gaol will cease, now that provision is being made for such cases; for under no circumstance is it possible to conceive that a prison is a fit place for children of such tender years.

Depravity of female prisoners.

Female offenders are, as a rule, found to be more depraved than male, and in this respect New South Wales forms no exception to the general experience. The number of men convicted in 1887 was 8,033 ; of these 1,745, or 21·6 per cent., received more than one sentence. There were 1,573 women convicted, of whom 702, or 44·6 per cent., had previous convictions. The number of offences committed by the 1,745 males was 5,266, or about 3 per head, while by the 702 females re-convicted the offences numbered 2,857, or more than 4 per head. The following figures show the number of persons received into gaol more than once during 1887.

Offenders convicted more than once.

Times convicted during 1887.	Males.		Females.	
	Offenders.	Offences.	Offenders.	Offences.
Twice	892	1,784	267	534
Thrice	381	1,143	164	492
Four or more times..	472	2,339	271	1,831
Total	1,745	5,266	702	2,857

The record of those convicted four or more times is a peculiar feature of this table, and it would appear that 472 men were sent to gaol 2,339 times, or an average of 4·95 per man, while 271 women had recorded against them 1,831 imprisonments, or an average of 6·76 each, and these during the course of one year.

Extent of criminal class.

It is impossible to determine the extent of the criminal class in the Colony, or even the number of habitual criminals. The number of prisoners with previous convictions against them has, however, been ascertained, and is shown in the following table.

Prisoners with Previous Convictions.

Year.	Offenders with previous convictions.	Offences committed by prisoners with previous convictions.	Average number of convictions per prisoner.
1879	1,700	6,240	3·67
1880	1,680	6,596	3·92
1881	2,994	8,623	2·88
1882	3,210	7,836	2·44
1883	3,056	7,668	2·51
1884	3,209	7,942	2·47
1885	3,355	8,295	2·47
1886	3,188	8,150	2·56
1887	2,441	8,117	3·33

Habitual offenders.

The previous convictions alluded to above do not merely refer to the year in which a prisoner figures in the return, but include convictions recorded at any previous period. Many prisoners entered as having previous convictions were sentenced many years before, and had not two convictions in any one year. The averages therefore given in the last column are the minimum. The terms for which women are sentenced are much shorter, as their offences are much lighter than those of males. On the other hand there must, from the evidence of the above table, be a constant reappearance of the same faces before the Courts to account for so high an average of re-convictions. The proportion of habitual offenders, if those with previous convictions may be so termed, is remarkable, and will perhaps be better illustrated by the following table than even by the one just given :—

Year.	Percentage of prisoners with previous convictions sent to gaol.	Year.	Percentage of prisoners with previous convictions sent to gaol.
1879	19·54	1884	26·17
1880	19·39	1885	26·99
1881	29·44	1886	26·40
1882	33·38	1887	25·41
1883	28·31		

Reconvictions.

The numbers of prisoners re-convicted from 1874 to 1887 are given in the following table; they are arranged in classes according to the terms of their imprisonment.

Classification of Prisoners re-convicted.

Year.	1st Class. Sentence, 5 years and upwards.			2nd Class. Sentence, less than 5 years.			3rd Class. Sentence, imprisonment only.			Drunkards and petty offenders omitted from the foregoing.		
	Second conviction.	Third conviction.	Fourth, or more.	Second conviction.	Third conviction.	Fourth, or more.	Second conviction.	Third conviction.	Fourth, or more.	Second conviction.	Third conviction.	Fourth, or more.
1874	4	14	......	28	26	......	7	5	......	281	895	......
1875	21	22	......	36	59	......	34	35	......	145	724	......
1876	19	40	......	56	86	......	25	44	......	169	1,027	......
1877	12	30	......	83	91	......	7	22	......	169	1,057	......
1878	10	27	......	51	66	......	17	28	......	1,150	2,178	......
1879	4	22	......	50	65	......	24	51	......	319	1,165	......
1880	20	3	3	186	39	30	113	38	37	388	823	......
1881	8	3	4	107	54	63	98	43	16	1,014	488	1,096
1882	16	5	12	231	82	93	152	38	85	1,157	476	863
1883	53	4	9	257	50	64	75	20	31	955	579	959
1884	35	10	46	136	72	57	86	29	37	1,170	559	972
1885	20	19	29	133	81	72	101	38	35	1,337	579	911
1886	23	10	23	108	43	115	93	31	51	1,325	552	814
1887	18	6	28	113	52	74	79	13	20	1,018	443	577

Previous to the year 1880 prisoners with four or more convictions are included with those convicted for the third time. The particulars in this table were obtained from the reports of the Comptroller-General of Prisons.

Refractory prisoners.

The chief punishment inflicted on refractory prisoners is solitary confinement. Formerly other modes of punishment were equally used, but of late years these have been to a large extent superseded. The number of punishments inflicted upon refractory prisoners are given below.

Refractory Prisoners.

Year.	Prisoners punished in gaols.			Percentage of total prisoners punished.
	Solitary confinement.	Other punishment.	Total.	
1876	498	453	951	9·33
1877	501	395	896	8·23
1878	768	192	960	8·17
1879	1,061	284	1,345	10·16
1880	1,210	263	1,473	10·84
1881	1,225	332	1,557	9·85
1882	1,133	319	1,452	10·19
1883	1,249	268	1,517	9·84
1884	1,473	436	1,909	11·23
1885	1,435	399	1,834	10·56
1886	1,420	389	1,809	10·61
1887	1,445	416	1,861	12·18

Debtors.

There were fifty persons imprisoned for debt during the year 1887. And as the time of detention as a rule only extended for short periods, the number of debtors in confinement at any one time was not large. The figures for the last twelve years will be found in the following table :—

Debtors in Confinement.

Year.	Male.	Female.	Total.	Year.	Male.	Female.	Total.
1876	31	1	32	1882	44	1	45
1877	42	...	42	1883	27	1	28
1878	49	2	51	1884	61	3	64
1879	46	2	48	1885	50	2	52
1880	46	1	47	1886	61	1	62
1881	52	...	52	1887	48	2	50

Deaths in gaols.

The death-rate in gaols is very light, when the neglected state in which many of the prisoners are received is considered, and moreover shows signs of decreasing. No common ground of comparison exists between the death-rate in gaols and that of the general population. In the following table the number of deaths are given from 1878 to 1887, together with the death-rates per 1,000 of all prisoners under sentence during each year, and this includes those whose term had not expired at the close of the previous year.

Deaths and Death-rate in Gaol.

Year.	Deaths.			Death-rate per 1,000 persons of both sexes under sentence.
	Male.	Female,	Total.	
1878	39	7	46	4·39
1879	36	7	43	4·10
1880	37	...	37	3·48
1881	53	7	60	4·88
1882	40	6	46	3·92
1883	30	5	35	2·75
1884	35	4	39	2·70
1885	39	11	50	4·01
1886	38	10	48	3·27
1887	30	8	38	3·13

THE SUPREME COURT.

Judges of the Supreme Court.

The chief legal tribunal of the Colony is the Supreme Court, which is at present composed of seven judges—that is, one Chief Justice, and six puisne judges. Civil actions are usually tried by a jury of four persons, but either party to the suit, on cause shown, may apply to a judge in Chambers to have the cause tried by a jury of twelve. Twice the number of jurors required to sit on the case are chosen by ballot, from a panel summoned by the sheriff, and from that number each of the parties strikes out a fourth, the remainder thus selected by both parties forming the jury who are to try the case. This jury are constituted the judges of the facts of the case only, being bound to accept the dicta of the judge on all points of law. From the court thus constituted an appeal lies to what is called the "Full Court," sitting *in Banco*, which is

The Full Court.

generally composed of at least three of the judges. The Chief Justice, or in his absence the senior puisne judge, presides over the Full Court, which gives its decision by majority. The circumstances under which new trials are granted are:—Where the judge has erroneously admitted or rejected material evidence; where he has wrongly directed the jury on a point of law; where the verdict of the jury is clearly against evidence; or where, from some other cause, there has evidently been a miscarriage of justice.

Appeal to Privy Council permitted.

Provision is made for appeals to the Privy Council, but any suitor wishing to carry his cause before the supreme tribunal of the Empire must first obtain leave so to do from the Supreme Court. The amount in dispute must be at least £500, or affect the construction of a New South Wales statute. In other cases application for leave to appeal must be made to the Privy Council itself.

The Chief Justice has also an extensive jurisdiction as Commissary of the Vice-Admiralty Court, in which all cases arising out of collisions, &c., in Australian waters, are determined.

Equity jurisdiction.

One of the puisne judges also acts as judge of the Equity Court, from whose decrees an appeal lies to the Full Court, and thence to the Privy Council.

Another puisne judge is judge of the Divorce Court, in which cases are usually tried without a jury, an appeal lying to the Supreme Court.

Ecclesiastical jurisdiction.

The equity judge also represents the ecclesiastical jurisdiction of the Supreme Court, and hears and decides all applications for the probate of wills, and for letters of administration, and also determines suits as to the validity, &c., of wills. Motions for rehearing cases in this court, before the Supreme Court or Privy Council are sometimes made. Barristers only have the right of audience before the Supreme Court.

Civil suits.

The following table gives the number of civil suits decided in the Supreme and Circuit Courts in each year from 1876 to 1887, inclusive :—

Civil Suits.

Year.	No. of writs issued.	No. of causes entered for trial.	Defended.	Undefended or settled.	Total amount for which judgment signed.		
					£	s.	d.
1876	2,530	293	208	85	106,257	12	6
1877	2,887	286	188	98	127,204	14	11
1878	3,280	319	199	120	278,126	10	5
1879	3,806	292	179	113	436,355	17	6
1880	3,312	350	202	148	202,253	15	3
1881	2,845	331	173	158	....		
1882	3,161	414	250	164	169,520	12	0
1883	3,830	377	225	152	....		
1884	4,547	493	271	222	370,647	13	0
1885	4,079	494	255	239	399,951	15	6
1886	5,649	503	255	248	410,274	14	5
1887	5,149	478	223	255	457,704	0	0

Probates and letters of administration.

The number of probates and letters of administration in connection with wills for each year, of the period 1876–87, is given below.

Probates and Administrations.

Year.	No. of probates and administrations—Will annexed.	Amount sworn to.	No. of letters of administration.	Amount sworn to.	Total.
		£		£	£
1876	511	1,677,972	415	223,189	1,901,161
1877	530	1,336,599	471	291,391	1,627,990
1878	573	1,735,064	514	281,367	2,016,431
1879	579	2,116,906	472	269,992	2,386,898
1880	667	1,323,823	506	210,816	1,534,639
1881	671	2,011,305	526	307,818	2,319,123
1882	810	3,586,554	589	581,528	4,168,082
1883	862	3,528,602	613	588,029	4,116,631
1884	933	3,642,709	648	605,543	4,248,252
1885	961	3,721,805	659	601,542	4,323,347
1886	1,026	4,726,918	706	768,628	5,495,546
1887	961	3,621,874	665	641,426	4,263,300

CRIMINAL JURISDICTION.

Trial by jury.

A judge of the Supreme Court presides over the Central Criminal Court of Gaol Delivery held at Darlinghurst. All prisoners are tried by a jury of twelve, chosen by ballot from the panel provided by the Sheriff. Every person charged with felony has a peremptory right of challenge extending to twenty jurors, and he can also further exercise his right of challenge on cause shown and allowed. No prisoner is allowed to give evidence, but he has a right to the services of counsel in conducting his defence. The verdict of the jury must be unanimous, for even if eleven jurors were agreed their verdict could not otherwise be accepted. If the jury cannot agree they may be locked up until they either give a unanimous verdict, or are discharged by the Court. If no verdict is returned, the prisoner is liable to be tried over again by another jury.

Gaol deliveries.

In addition to the supreme, civil, and criminal sittings of the Court held in Sydney, each judge goes on circuit once in each half-year, and holds Courts of Gaol Delivery and for hearing civil cases at certain circuit towns, viz. :—In the north—Maitland, Tamworth, Armidale, and Grafton; in the west—Mudgee, Bathurst, and Dubbo; in the south—Goulburn, Yass, Wagga Wagga, Albury, and Deniliquin.

DISTRICT COURTS.

Minor civil causes.

District Courts have been established for the trial of civil causes where the value in dispute does not exceed £200. They are presided over by judges specially appointed for the purpose, who also perform the duties of Chairmen of Quarter Sessions for the trial of all prisoners except such as are charged with capital crimes. District Courts sit continuously in the metropolis, and are also held twice a year in all the considerable country towns. The judge is not ordinarily assisted by a jury, but in cases where the amount in dispute exceeds £20, either of the parties may, by giving notice to the Registrar of the Court, have a jury summoned. On questions of law an appeal lies to the Supreme Court.

Questions reserved for Supreme Court.

On the trial of prisoners at Quarter Sessions, the Chairman, at the request of the prisoner's counsel, must reserve questions of law for the consideration of the Supreme Court, or he may so act *motu proprio*.

Suits in District Courts.

The number of suits in the District Courts of the Colony, and the mode in which they were tried, whether with or without jury, &c., is given in the following table for the judicial year terminating the last day of February, 1888 :—

Suits in District Courts, 1887–88.

District.	Number of suits.		Settled.		Number of cases.			Result of the trials.	
	Commenced.	Total amount sued for.	Without hearing.	By arbitration.	Tried.	Tried.		For plaintiffs.	For defendants.
						By jury.	Without jury.		
		£							
Metropolitan and Hunter	6,582	152,002	3,080	...	3,108	18	3,090	2,866	242
Southern	1,146	34,653	455	3	654	33	621	551	103
South-western	690	26,497	331	...	346	21	325	297	49
Western	662	17,361	368	...	261	4	257	226	35
Northern	1,745	51,811	655	...	989	11	978	900	89
North-western	418	17,109	166	...	217	11	206	166	51
Total......	11,243	299,433	5,055	3	5,575	98	5,477	5,006	569

The costs of the above-mentioned suits in the Districts Courts amounted to £22,055.

INSOLVENCY COURT.

Insolvent debtors.

The statutes relating to insolvent debtors are administered by the Supreme Court, and the jurisdiction is exercised by a judge thereof, called the Judge in Bankruptcy, who may on occasion delegate certain of the powers vested in him to the Registrar of Insolvent Estates. When any person becomes embarrassed, and is unable to pay his debts the law allows him to sequestrate his

Sequestration of estates.

estate for the benefit of his creditors, or these latter may, under certain specified circumstances, apply for a compulsory sequestration. An officer of the Court, termed an official assignee, is appointed by the judge to manage each sequestrated estate. His duties are to realise the insolvent's assets, and pay *pro rata* the debts proved, subject to the approval of the judge. After each insolvent's case has been investigated, and all dividends have been paid, the judge may at his discretion grant a certificate relieving the insolvent from all future liability. This certificate is granted in all cases where no blame has been found to attach to the applicant; but where the insolvency has been brought about by recklessness or fraud, it is often withheld for some time, and, in very bad cases, refused entirely. An appeal from the decision of the judge may be made on the same terms and in similar mode as is provided in respect to an order, decision, or ruling of a judge of the Supreme Court, and by the rules of Court, though the judge from whose decision an appeal has been made may not sit to hear such appeal.

The number of insolvents, and the amounts for which they failed, and other particulars will be found in the chapter of this volume relating to finance.

PART XVII.

Constitution and Government.

THE record of New South Wales as a Crown Colony belongs more to history than to current statistics. It is therefore not proposed, in the following sketch, to deal with matters prior to the establishment of Responsible Government, though a brief narrative of the early history and settlement of the country will be found in the opening pages of this volume.

Present government began in 1855.

The present form of government was inaugurated little more than thirty years ago, the "Act to confer a Constitution on New South Wales, and to grant a Civil List to Her Majesty," having received the Royal assent on the 16th July, 1855. This important statute was proclaimed in Sydney on the 24th of November of the same year, and at once came into operation, sweeping away entirely the former system, and constituting an elective representative Chamber, thus making the Queen's subjects in the Colony, by the granting of equal privileges, the equals of their countrymen in other parts of the Empire. The ties which bound the Colony to the Mother Country were in no way loosened, for the Constitution Act simply conceded to the people of New South Wales the same rights which prevailed in the United Kingdom, namely, of taxing themselves, and of being governed by Ministers responsible to a Parliament elected by the people. The authority vested in the Sovereign remains the same as before, though the mode of its exercise is widely different. The Sovereign, previously to Responsible Government, exercised, through the Governor, almost despotic power. This official, in times past, united in himself the executive and legislative functions, and personal liberty and independence

The Sovereign.

were to no small degree in his power. With the establishment of Responsible Government, this state of things ceased, and the greatest measure of individual liberty is now found compatible with the full protection of public rights. The readiness with which the people of the Colony adapted themselves to the forms and practice of their new government was not a little remarkable, and fully justified their assumption of its privileges.

Laws enacted in Queen's name.

All laws are still enacted in the name of the Queen, "by and with the advice of the Legislative Council and Legislative Assembly," the Governor, as the Royal Deputy, giving the assent of the Sovereign immediately to Acts of Parliament, or reserving them for the consideration of the Sovereign, if he thinks fit. To afford a clearer conspectus of the Constitution, it will be well to consider, under distinct heads, the several elements which form the governing and legislative body.

THE GOVERNOR.

How appointed.

Previously to the year 1879 the Governor of the Colony was appointed by Letters Patent under the Great Seal; but in that year the practice was discontinued by the advice of Sir Alfred Stephen, given during the tenure of office of Sir Hercules Robinson. The change was first carried out in the appointment of Lord Augustus Loftus. The office of Governor is now constituted by permanent Letters Patent, and by a standing Commission, instead of as formerly by letters issued *pro hac vice* only. The Governor receives his appointment at present by Commission under the Royal sign manual and signet, which recites the Letters Patent of the 29th April, 1879, as well as the instructions issued (under sign manual and signet) in further declaration of the Queen's "will and pleasure." The original Letters Patent, thus recited and enforced, declare that the Governor is directed and empowered "to do and execute all things that belong to his office according to the tenor of the Letters Patent, and of such Commission as may be issued to him under our sign manual and signet, and according to such instructions as may from time to time be given to him under our sign manual and signet, or by our order in our Privy Council, or by us through one of our Principal Secretaries of State, and to such laws as are now or shall hereafter be in force in the Colony." By a custom which has now long prevailed, no Governor is allowed to retain his office longer than six years. Should the Governor die or become incapable during his tenure of office, or be removed before the arrival of his successor, or should he have occasion to leave the Colony for any considerable period, the Government is to be administered (1) by the Lieutenant-Governor, or, if there be no Lieutenant-Governor, (2) by an Administrator to be appointed according to the provisions of the Letters Patent and instructions. The present Lieutenant-Governor is Sir Alfred Stephen, who was appointed by a Commission, dated 30th April, 1879; and the Administrator was appointed by a Commission of the same date, directed to the President of the Legislative Council for the time-being.

Lieutenant-Governor.

The Lieutenant-Governor, or, in his absence, the Administrator, is empowered by his Commission to execute the office of Governor during any temporary absence of the Governor from the Colony; but the Governor may not be absent, except in accordance with the terms of his instructions. He may not leave the Colony without the Queen's special leave, unless on a visit to the Governor of a neighbouring colony, for a period exceeding one month at a time, nor exceeding in the aggregate one month for every year of his service; but, on the other hand, the Governor may leave the Colony for any period not exceeding one month without its being reckoned as a departure, if he shall have previously informed the Executive Council in writing of his intention, and appointed a deputy to act for him till his return. This deputy must, in the first instance, be the Lieutenant-Governor; but if, from any cause, his services are not available, the Governor may appoint whom he pleases as his deputy.

The Administrator.

The Governor's functions, according to the Letters Patent, Commission and Instructions may be recapitulated as follows:—

The Governor is the custodian of the Great Seal, under which all Crown grants, &c., must pass.

Governor appoints Executive.

The Governor has the appointment of his own Council—the Executive. He is also to summon that Council, and is, ordinarily its President; but in his absence some other member may be nominated to preside. It is usual, however, to appoint some member of the Ministry permanent Vice-President, who presides in the absence of the Governor.

The Governor is the fountain of honour within the Colony, since to him belongs the power to appoint, in the Queen's name, all Judges, Justices of the Peace, Commissioners, and other "necessary officers and Ministers"; and he may remove, by virtue of his powers as Viceroy, from the exercise of his office any official so appointed.

Prerogative of mercy.

The Governor is also the depositary of the prerogative of mercy within the Colony, having it in his power to pardon, either absolutely or conditionally, any offender convicted in New South Wales. He can also remit fines, penalties, and forfeitures due to the Crown, but he cannot pardon or remit on the condition of the offender voluntarily leaving the Colony, unless the offence has been a political one only. In all capital cases the Governor is required by his instructions to obtain a report in writing from the Judge who tried the prisoner, which is to be considered at a meeting of the Executive Council, and the Judge himself may also be examined before the Council, although his recommendations need not necessarily be adopted. The Governor, however, is not empowered to reprieve any capitally sentenced prisoner, or pardon him absolutely "unless it shall appear to him expedient so to do upon receiving the advice of the Executive Council, but in all such cases he is to decide either to extend or to withhold the pardon or reprieve according to his own deliberate judgment, whether the members of the Executive Council concur therein or otherwise." If the Governor decides to act contrary to the advice of the Executive he must make a minute in the proceedings, stating his reasons for so acting, *in extenso.*

The Governor is also vested with the authority of the Crown, enabling him to nominate the members of the Upper House of the Legislature, and to summon, prorogue to a future day, or dissolve "any legislative body" existing in the Colony.

Governor acts by advice of Executive.

His instructions, however, provide that in the exercise of the above powers, the Governor is to act by the advice of the Executive Council in all cases, except those whose nature is such that in his opinion the public service "would sustain material prejudice," or in matters too trivial to submit to the Council, or "too urgent to admit of their advice being given;" but in all such urgent cases he must communicate to the Council as soon as practicable the measures taken by him, and his reasons for acting. It is expressly provided, however, that the Governor may, if he think fit, disregard the advice of the Executive and act in direct opposition to the declared will of his advisers, but in such cases he is required to make a full report of the whole circumstances for the information of the Secretary of State for the Colonies.

Governor Viceroy as regards Royal assent.

The Governor acts as Viceroy as regards giving the Royal assent or vetoing Acts passed by the Legislature, or reserving Bills for the special consideration of the Sovereign. The instructions deal at large with this matter, but it is usual in practice to be guided to a large extent by the advice of the law officers of the Crown. There are eight different classes of Bills, however, to which the Governor is bound to refuse the Royal assent. They are:—

(1.) Divorce Bills (that is, private bills divorcing particular persons).

(2.) Bills making any kind of grant, gratuity, or donation to the Governor.

(3.) Bills affecting the currency.

(4.) Bills imposing differential duties, which are not in accordance with the "Australian Colonies Duties Act, 1873."

(5.) Bills apparently contrary to Imperial treaty obligations.

(6.) Bills interfering with the discipline or control of Her Majesty's land or sea forces employed in the Colony.

(7.) Bills of great importance, or extraordinary in their nature, whereby the Royal prerogative, or the rights and property of Her Majesty's subjects residing beyond the Colony, or the trade and shipping of the United Kingdom and its dependencies may be prejudiced.

(8.) Bills containing provisions to which the Royal assent has already been refused, or which have been once disallowed, unless they contain a clause suspending their operation until the Queen's pleasure has been signified, or unless the Governor is satisfied that there is urgent necessity for bringing any such Bill into immediate operation, in which case he is empowered to assent to the Bill on behalf of the Queen, if it is not repugnant to the law of England, or inconsistent with Imperial treaty obligations; and in every such case he is required to transmit the Bill to Her Majesty, together with his reasons for assenting to it.

Acts regulating Royal assent.

The following Acts of Parliament regulate the action of the Governor in assenting to Bills on behalf of the Queen, or reserving them for the consideration of the Sovereign:—5 and 6 Vic., secs. 31–32, cap. 76; 7 and 8 Vic., sec. 7, cap. 74; and 13 and 14 Vic., cap. 59, secs. 13, 32, and 33. The effect of these enactments is to deprive any reserved Bill of all force and legality until the Queen's assent thereto has been formally communicated to the Governor; and power is given to Her Majesty to veto any Bill to which the Governor has assented on her behalf within two years after the receipt of such Bill by the Secretary of State for the Colonies, in which case the Bill is to be declared null and void by message of the Governor, and proclamation. Reserved Bills are to be laid before Her Majesty in Council, and the Queen may allow them or not within a period of two years from the day on which they were reserved by the Governor.

Summoning of Parliament, &c.

By the Act 7 Vic., No. 16, all Acts of Parliament which become law are required to be registered by the Registrar General within ten days of their so becoming law.

The above is a summary of the powers and duties of the Governor, as defined by his instructions and the Letters Patent, but additional duties have been imposed upon him by the Constitution and Electoral Act. In accordance with these enactments, he must summon the Legislative Assembly, appoint the President of the Legislative Council; prorogue or dissolve Parliament; appoint his ministers *proprio motu;* also appoint, with the advice of the Executive, all public officers whose appointment is not vested in heads of departments; issue all warrants for the payment of money; issue the writs for general elections, and, in the absence of the Speaker, issue writs to fill vacancies occurring in the Assembly. He also appoints all returning-officers, and issues the writs for additional members provided for by the expansive clauses of the Electoral Act.

Dissolution of Parliament

In summoning, proroguing, or dissolving Parliament, the Governor usually acts according to the advice tendered him by the Cabinet, but he is in no way bound to do so; and, as a matter of fact, has sometimes declined to be guided by his Ministers. This, however, has never happened except in respect to granting a dissolution. As to summoning or proroguing, a difference of opinion is hardly likely to arise. The relations established between the Ministry and the representatives of the people are in accordance with the time-honoured precedents prevailing in Great Britain, which may be thus defined. The Cabinet must be chosen from—"(1) Members of the Legislature; (2) Holding the same political views, and chosen from the party possessing a majority in the

House of Commons; (3) Carrying out a concerted policy; (4) Under a common responsibility, to be signified by a collective resignation in the event of Parliamentary censure; and (5) acknowledging a common subordination to one Chief Minister."

Circumstances under which a Government must resign.

The Imperial rule as to the circumstances under which a Government is bound to resign, is as follows:—Censure, involving loss of office, rests entirely with the Lower House, or popular branch of the Legislature. Hence directly a Ministry fails to command a majority of the House of Commons, it must give place to another. Want of confidence in a Cabinet may be shown in three ways; first, by a direct vote of censure, or a specific declaration of want of confidence; secondly, by a vote disapproving of some act of the Government; or thirdly, by the rejection of some important measure introduced by the Ministry. In any of these cases Ministers must either resign or appeal to the country, if they can get the Sovereign to sanction a new election.

These rules have been virtually adopted in New South Wales and the undoubted right of the Governor, as the depositary of the Royal prerogative, to refuse to grant a dissolution, if he thinks fit, has been more than once exercised. In March, 1877, Sir Hercules Robinson refused to grant a dissolution to Sir John Robertson, and in September of the same year he also refused to enable Sir Henry Parkes to go to the country. The reason alleged in each case was that the Assembly refused to make provision for the expenditure of the year. It will thus be seen that a grave responsibility is thrown upon the Governor in the exercise of the undoubted right of granting or refusing a dissolution of Parliament, and in the cases mentioned it can hardly be doubted that Sir Hercules Robinson acted within his powers. The Viceroy is the conservator of the rights and interests of the whole population, and it must be evident that grave evils would ensue should a dissolution take place before supplies had been granted.

Prerogative of mercy.

The exercise of the prerogative of mercy is such an important function of the Governor, and he is so liable on some occasions to have strong pressure brought to bear upon him in connection with it, that it will be well to quote at length a despatch of Lord Carnarvon, explaining the instructions on this point. Under date 4th May, 1875, he wrote :—

> "It should be understood that no capital sentence may be either carried out, commuted, or remitted, without a consideration of the case by the Governor and his Ministers assembled in Executive Council. A minor sentence may be commuted or remitted by the Governor, after he has duly considered the advice, either of his Ministers collectively in Executive Council, or of the Ministers more immediately responsible for matters connected with the administration of justice; and whether such advice is or is not tendered in Executive Council, it would seem desirable that, whether also given orally or not, it should be given in writing."

Governor as Commander-in-Chief of military forces.

One exception to the rule that every exercise by the Governor of the Royal prerogative is subject, practically, to the control of the Legislature occurs in connection with the exercise of his office as Commander-in-Chief of the land and sea forces. The Governor's powers in this regard are defined and regulated by the Military and Naval Forces Regulation Act of 1871, which, after providing for the raising and maintenance of a standing force, goes on to vest the supreme command in the "Governor," which title, in the interpretation clause, is defined to mean "the Governor with the advice of the Executive Council," *unless the context shall otherwise indicate.* Full powers with relation to the Volunteer Force are also bestowed on the Governor by the Volunteer Regulation Act of 1867, but in this, as in the former statute, "Governor" only means "the Governor with the advice of the Executive Council," *if this meaning is not inconsistent with the context or subject-matter.* It will at once be seen that these are both important limitations, as in certain imaginable contingencies, the Governor is left free to act on his own responsibility. This places the Governor almost in the position of the Commander-in-Chief in England (when such an officer exists, which is very seldom, the control of the army usually being vested in Generals commanding-in-chief); that is, he has at times the absolute disposal of the armed force of the Colony. This power is peculiar to New South Wales, as in other British Colonies, the Governor possesses no more power over the military than he does over any civil department of the service. The position of the Governor as Captain-General does not, however, give him power to take the direct command of Imperial troops, should any such be stationed in the Colony.

Martial Law.

As regards the far more important power of the Governor to proclaim martial law, different opinions are held. But there is no doubt, as the power has not been conferred by any statute in force in the Colony, that, if it exists, it must be a matter of prerogative. The necessity for proclaimimg martial law has happily never occurred since the advent of Responsible Government.

THE EXECUTIVE.

The Cabinet.

The Executive Council is composed of the ten Ministers, namely: The Colonial Secretary, the Treasurer, the Attorney-General, the Secretary for Lands, the Secretary for Public Works, the Minister of Justice, the Minister of Public Instruction, the Secretary for Mines, and the Postmaster General, with sometimes a Vice-President of the Executive Council, who is without a portfolio. These form the Cabinet, and, of course, are responsible to Parliament. The Ministry, as the advisers of the Governor, must also retain his confidence, but practically, this is seldom likely to be withdrawn, so long as they can command a working majority in the Assembly. The Governor may dissolve Parliament although the Ministry have not sustained a defeat, and in this case the continued existence of any Government would depend directly on the vote of the constituencies, but such a contingency can happen but seldom.

Ministers not usually appointed from Upper House

It is rare for more than one Minister to be selected from the Upper House, and it will thus be seen that the principle of the responsibility of members of the Government to Parliament is

Ministers responsible to Parliament.

fully carried out. For every act of the Governor as Viceroy, some Minister is responsible to Parliament; and even in matters of Imperial interest, where the final onus rests upon the Governor, he himself is responsible to the Imperial Government, whose members are under the control of the House of Commons, so that no loophole is left for the exercise of any arbitrary act. The Crown, except in two instances (appeals to the Privy Council and the bestowal of titles), acts towards the Executive through its representative, the Governor; and so long ago as the inception of Responsible Government, Earl Grey declared, in an official despatch, that he should make "a judicious use of the influence, rather than of the authority, of his office," which wise maxim has usually been followed. But in extreme cases, such as when his sanction is requested to any illegal proceeding, the Governor is bound, without question, to keep the law, though he may thereby be brought into hostile relations with the Cabinet. Sir Michael Hicks-Beach, in a communication to the Governor-General of Canada in 1879, clearly laid down the doctrine that the Governor of any British Colony "has an unquestionable constitutional right to dismiss his Ministers, if from any cause he feels it incumbent on him to do so." This does not militate against the doctrine of responsibility, for if the Ministry appointed by the Governor do not possess the confidence of Parliament, they cannot hold office, and hence the Governor will be forced to give way, or else persevere till he can select a Ministry which the Assembly will accept. The final control will thus be, as in every other case, with the representatives of the people. In matters of routine, the Governor will necessarily act on the advice of his Ministers, and in most cases relating to the internal economy of the departments, he will adopt even the individual recommendations of the Ministers by whom they are severally controlled.

Dismissal of Ministers.

As regards matters of purely Imperial interest, the Governor is responsible to the British authorities for their due conservation. If, in consequence of his action on any such matter, he is involved in a dispute with his Ministers, he is bound to refer them to the Sovereign, should his action have been endorsed by the Colonial Office. If his conduct is not approved of in England he would most likely be recalled. It follows from this, that in no case can the Governor be held to be responsible directly to Parliament for his conduct. His Ministers are responsible, but personally he has only to render an account to the Crown itself, that is, to the Imperial Parliament.

Executive must be summoned by Governor.

The Executive Council cannot discharge any function unless duly summoned by the Governor, and at least two members, besides the Governor or presiding member, are present to form a quorum. Formal minutes are, of course, kept of all proceedings. The Executive Council, as at present constituted, is as follows:—

Premier and Colonial Secretary.	The Hon. Sir Henry Parkes, G.C.M.G.
Colonial Treasurer	The Hon. John Fitzgerald Burns.
Attorney General	The Hon. George Bowen Simpson, Q.C.
Secretary for Lands	The Hon. James Nixon Brunker.
Secretary for Public Works......	The Hon. John Sutherland.
Minister of Public Instruction	The Hon. James Inglis.
Minister of Justice	The Hon. William Clarke.
Postmaster General	The Hon. Charles James Roberts, C.M.G.
Secretary for Mines	The Hon. Francis Abigail.
Vice-President of the Executive Council and Representative of the Government in the Legislative Council (without portfolio)	The Hon. Julian Emanuel Salomons, Q.C.

Since the introduction of Responsible Government, there have been twenty-four Ministries, the average tenure of office being one year and four months.

THE PARLIAMENT.

Relative powers of the two Houses undefined.

It seems a singular omission in the Constitution Act that no definition is given of the relative powers of the Legislative Council and Legislative Assembly. Such is the fact, but no inconvenience has arisen thereby, since by common consent it has been agreed that the precedents regulating the proceedings and relations, inter *se*, of the two Houses of the Imperial Parliament shall be followed, as far as applicable, in New South Wales. The Constitution Act provides that all money bills shall be introduced in the Lower House only. The important rule of the House of Commons, affirmed two hundred years ago and constantly enforced ever since, that "all aids and supplies, and aids to Her Majesty in Parliament are the sole gift of the Commons, and it is the undoubted right of the Commons to direct, limit, and appoint in such bills, the ends, purposes, considerations, conditions, limitations, and qualifications of such grants, which ought not to be changed or altered by the House of Lords," is also held to be in force as regards the Parliament of this Colony, and has always been recognized and acted upon.

Parliament cannot punish for contempt.

The two Houses, however, do not possess the most important of the privileges of the Imperial Parliament, namely, the right of punishing for contempt, although the Legislative Assembly has, on one occasion, punished one of its members, for conduct assumed to be dishonorable beyond its precincts, by expelling him. As regards disorderly conduct within the walls of the Chamber, it has been held by the Supreme Court and affirmed by the Privy Council, that the Assembly only possesses the power of suspending a member for disorderly conduct for the period of the sitting at which such conduct took place. A member may be also removed from the House by order of the Speaker if he persists in obstruction or contemns the Standing Orders; but fortunately this course has seldom been rendered necessary.

Witnesses may be summoned.

Witnesses may be summoned to give evidence before either House, or before committees of the Council or Assembly, the necessary powers for compelling their attendance having been conferred by an Act passed in 1881. Any person disobeying a summons may be arrested on a judge's warrant, and the maximum penalty for refusing to give evidence is imprisonment for one calendar month.

As regards the maximum number of members of the Legislative Council, no limit is assigned by the Constitution Act, although

No limit to numbers of Council.

the minimum number is fixed at twenty-one. It will be seen that this gives power to a Governor to quash any possible obstruction on the part of the Council to the will of the Government, and the Lower House by "swamping" the Council. Such a proceeding, however, can hardly be held to be allowable, except under extreme circumstances. As a matter of fact, an attempt to "swamp" the Council was made during one of the premierships of the late Sir Charles Cowper, but public opinion condemned his action most strongly, although the somewhat peculiar circumstances of the case were thought at the time to justify the Governor's action. The authorities in England severely rebuked the Governor (Sir John Young) for the course he had taken, and since then, "swamping" the Council has never been seriously entertained, nor is there much chance that it will ever again be attempted. The principle in fact has been affirmed, on the basis of an understanding entered into between Sir John Young and the leading statesmen of the day (of both sides of the House), that the members of the Legislative Council should be limited to a convenient number, and that no nominations should ever be made merely for the purpose of strengthening the party which happens to be in power. A deadlock between the two Houses is provided against by the universal feeling that the Assembly represents the will of the people, and in such case the Council would certainly have to give way to the deliberate will of the people's representatives. The Council is intended as a check to hasty legislation; and it doubtless acts as a useful "brake" to violent party feeling.

THE LEGISLATIVE COUNCIL.

Constitution of the Legislative Council.

As before stated, the members of the Upper House are nominated by the Governor, the minimum number composing the House being fixed at twenty-one. No limit as to numbers is fixed by the Constitution Act, but in accordance with the arrangement already described, the number is practically kept down by the exclusion of all purely political appointments. As the number of members of the Assembly has been greatly increased in pursuance of the "expansion" clauses of the Act, the present number of members composing the Council (sixty-four) will not be considered an unfair proportion, as the increase is in about the same ratio as that of the Assembly. The members must be of full age, and either natural-born or duly naturalized subjects of the empire. Four-fifths of the members must be persons not holding any paid officer under the Crown, but this is not held to include officers "in Her Majesty's sea and land forces on full or half pay, or retired officers on pensions." Though the appointment is for life, a member may resign his seat, and he also forfeits it by absence from two consecutive sessions without leave, by becoming naturalized in a foreign State, by becoming insolvent, by becoming a public contractor, or defaulter, by being attainted of treason, or being convicted of felony, or any infamous crime. The Governor appoints and removes, if considered necessary, the President, who may speak in debate, but can only give a casting vote. An attendance of one-third of the members on the roll is necessary to constitute a quorum. The Council must hold a sitting at least once in every year, and no greater interval than twelve months must elapse between session and session. The proceedings are regulated by standing orders, which are, in the main, similar to those of the Assembly, the latter being framed on the model of the rules obtaining in the House of Commons. No member may sit or vote till he has taken the oath of allegiance, or the affirmation prescribed in lieu of that oath.

Members may resign.

THE LEGISLATIVE ASSEMBLY.

The Lower House of Parliament is elected by manhood suffrage, the number of electorates being at present seventy-two, returning 124 members. The qualification of electors is derived either from actual residence in an electorate or ownership of a freehold or leasehold therein. The following are the rules applying to each of the two cases:—

Qualification of electors.

1. Any person claiming a right to have his name on the electoral roll in respect of residence, must prove that at the time of the

collection of the roll he resided in the electorate in question, and had done so for six months previously.

Property qualification.

2. Any person who claims in respect of property must show that at the time the electoral list was made up, and during the preceding six months:—

(*a.*) He is and has been holder of a freehold or leasehold estate of the clear value of £100, or

(*b.*) He is and has been in the receipt of rents and profits of the annual value of £10, arising from freehold or leasehold property, or

(*c.*) Occupies and has occupied a house, warehouse, office, shop, room, or building, either with or without land attached, of the annual value of £10, or

(*d.*) Holds and has held a Crown lease or license for pastoral purposes within the electoral district.

The six months occupation is not required to be of the same premises, provided he has occupied continuously several sets of premises of the required value he is entitled to vote.

A man must be possessed of one or other of the above qualifications to entitle him to vote in any electorate; but he can only have one vote in each electorate, no matter how many qualifications he has in that electorate. If he is qualified in several electorates, he is entitled to have his name on the electoral roll in each.

Disabilities.

A person is disabled from voting by reason of the existence of any of the following disqualifications at the time of making out the electoral roll:—

1. Being of unsound mind.
2. Being in receipt of eleemosynary aid.
3. Having been convicted of treason, felony, or other infamous crime, unless he has either received a free or conditional pardon, or has served his sentence.

4. Being in the military or naval service on full pay. Membership in a volunteer or militia corps does not disqualify.
5. Being a police magistrate or member of the police force (including the Inspector General).

"Expansion" clauses of Electoral Act.

The "expansion clauses" of the Act, as they are called, provide that when an electorate which has previously returned only one member has 3,000 names on its electoral roll, or when one which returns two members is possessed of 5,000 voters, or one which returns three has reached 8,000, such electorate, in each case, is entitled to return an additional member; but the Governor must first notify the fact by proclamation in the *Gazette.*

Any natural born, or duly naturalized subject of Her Majesty is capable of being elected a member of the Assembly, subject to the same disqualifications as for voters, with the following additional ones:—

1. He must not be a member of the Legislative Council.
2. He must not hold any office of profit under the Crown, either for a term of years or during pleasure.
3. He must not be in any way interested in any contract for the public service.

Offices of profit.

By the "Constitution Act Amendment Act of 1884" the disqualification of persons holding office of profit was declared not to apply to the Colonial Secretary or other member of the Ministry. The third disqualification also does not apply to any contract made by a company consisting of more than twenty persons.

If any disqualified person should be elected, the election is voided by the House, and should such person presume to sit or vote, he is liable to a fine of £500.

Members must take oath of allegiance.

Before taking his seat, each member must take the oath of allegiance in the prescribed form, or make an affirmation in lieu of it. A member may resign his seat at any time, and he is held to have vacated it under any of the following conditions:—Absence during a whole session without leave, naturalization in a foreign country, insolvency, being a defaulter, or convicted of treason, felony, or any other infamous crime.

Parliament triennial.

The Act 37 Vic., No. 7, provides that no Assembly can prolong its existence beyond the term of three years. One session, at least, must be held every year, and twelve months must not elapse between any two sessions. On first meeting after a general election, the first business is to elect a Speaker, who has only a casting vote. Twenty of the members (exclusive of the Speaker) constitute a quorum.

Writs.

Writs for general elections must be made returnable not later than thirty-five clear days after the date of the proclamation dissolving the former Parliament. Writs for general elections, and also for vacancies occurring between a general election and the meeting of Parliament for the despatch of business, are issued by the Governor. For all other elections the writs are issued by the Speaker, unless absent from the Colony, or unless no Speaker has yet been elected, when the Governor signs these writs in like manner to the others.

Election is by ballot.

Election is by ballot, the names of those entitled to vote being compiled twice a year and published for general information.

Meeting of first Parliament.

The first Parliament elected under the Constitution Act met on the 22nd May, 1856, just six months after the proclamation of the Constitution. The sittings, unless Parliament should be previously prorogued, were originally fixed at five years, but in 1874, an Act was passed establishing triennial Parliaments, which has ever since remained law. Since the inauguration of Responsible Government, there have been thirteen appeals to the people, so that it will be seen the duration of each Assembly has not averaged even the shorter period of life to which its existence is now limited. The subjoined table gives the duration of each Parliament elected under Constitutional Government.

Duration of Parliaments since the Establishment of Responsible Government.

Parliament.	Opened.	Dissolved.	Duration.			No. of Sessions.
			Yr.	mth.	dy.	
First	22 May, 1856 ...	19 Dec., 1857 ...	1	6	27	2
Second	23 March, 1858 ...	11 April, 1859 ...	1	0	19	2
Third	30 Aug., 1859 ..	10 Nov., 1860 ...	1	2	11	2
Fourth	10 Jan., 1861 ...	10 Nov., 1864 ...	3	10	0	5
Fifth	26 Jan., 1865 ...	15 Nov., 1869 ...	4	9	22	6
Sixth	27 Jan., 1870 ...	3 Feb., 1872 ...	2	0	7	3
Seventh	30 April, 1872 ...	28 Nov., 1874 ...	2	6	29	4
Eighth	27 Jan., 1875 ...	12 Oct., 1877 ...	2	8	15	3
Ninth	27 Nov., 1877 ...	9 Nov., 1880 ..	2	11	13	3
Tenth	15 Dec., 1880 ...	23 Nov., 1882 ...	1	11	8	3
Eleventh	3 Jan., 1883 ...	7 Oct., 1885 ...	2	9	4	6
Twelfth	17 Nov., 1885 ...	26 Jan., 1887 ...	1	2	9	2
Thirteenth ..	8 March, 1887 ...	Still in session ...	....			...
	Average		2	4	18	3 to 4

Interest displayed in elections.

The amount of interest displayed by the electors in the exercise of their franchise is very considerable, though the proportion of votes recorded may not appear to sustain this view. At the general election of 1887 the total number of votes on the electoral rolls was 256,406, or 10 voters to every 39 persons in the community. In fourteen electorates, with 30,178 electors, returning seventeen members, there were no contests. The remaining 58 electorates, returning 107 members, comprised 226,228 electors, and of these only 131,062, or 57·9 per cent., recorded their votes.

Large area of electorates.

Owing to the vast extent of some of the electoral districts, many electors can only record their votes at considerable inconvenience to themselves, and to this cause, combined with the fact that the number of non-resident voters is very considerable, must be assigned the apparently low percentage of votes recorded.

The number of males of full age, compared with the total population, is very large, the proportion at the last census being 28·18 per cent. The number of persons entitled to vote under the system of universal suffrage which prevails amounts to an average of 26·06 per cent. of the total population. The average number of electors per member at the time of the last general election was 2,067, and the estimated population to each member was 8,088. The subjoined table gives the result of all the general elections which have taken place under Representative Government.

Parliamentary Elections.

Date of the issue of Writs.	No. of Parliament.	Voters on Roll.	Total number returned.	Members unopposed.	Votes on Roll in the Electorates where the contests took place.	Votes recorded.	Percentage of Votes recorded.	Informal Votes.	Percentage of Informal Votes.
22 May, 1856	First	44,526	54	*	*	*	*	*	*
23 March, 1858	Second	72,176	72	14	60,400	30,370	50·83	*	*
30 August, 1859....	Third	88,345	72	19	64,247	28,205	43·90	*	*
10 January, 1861 ..	Fourth	106,189	72	19	75,676	28,340	37·45	29	·10
24 „ 1865 .	Fifth	119,872	72	15	90,729	44,311	48·84	31	·07
27 „ 1870 ..	Sixth	135,506	72	11	108,080	56,299	52·09	102	·18
30 April, 1872......	Seventh ..	151,798	72	8	135,432	60,004	44·30	80	·13
27 January, 1875 ..	Eighth	160,843	72	10	132,710	59,877	45·12	334	·56
27 November, 1877..	Ninth	160,945	73	16	130,718	63,018	48·20	*	*
18 December, 1880..	Tenth	188,500	108	14	165,435	78,772	47·62	1,836	2·33
3 January, 1883 ..	Eleventh ..	196,289	113	17	172,011	83,740	48·68	1,937	2·31
17 November, 1885..	Twelfth ..	232,190	122	7	216,746	110,814	51·13	2,527	2·28
27 January, 1887 ..	Thirteenth.	256,406	124	17	226,228	131,062	57·93	2,275	1·73

* Unrecorded.

PART XVIII.

Finance and Public Wealth.

THE Public Revenue of New South Wales largely exceeds that of any other Australian Colony. The total amount raised by each colony during 1887, as well as the revenue per inhabitant, were as follows :—

Colony.	Total Revenue.	Revenue per head of population.
	£	£ s. d.
New South Wales	8,582,810	8 7 10
Victoria	7,054,434	6 17 0
Queensland	3,032,463	8 10 10
South Australia	2,014,102	6 8 10
Western Australia	379,903	9 5 2
Tasmania	594,980	4 5 0
New Zealand	3,648,789	6 2 5
Revenue of Australasian Colonies	25,307,482	7 5 2

Revenue for 1825.

Reliable information respecting the revenue and expenditure of New South Wales is not obtainable earlier than 1825, in which year the public receipts amounted to £71,682, and the expenditure to £93,020. Sixty-two years afterwards, at the close of 1887, the revenue had increased more than one hundred fold, though the population had, during the same interval, increased only thirty fold. From 1825 to 1840, a date memorable in the annals of the Colony as that in which transportation ceased, the advance in the revenue was very rapid. In that year the public receipts amounted to £683,112, a sum not again reached until 1853, two years after the discovery of gold. From 1853 to 1859 the revenue made great strides, and amounted to £1,522,668 for the year last mentioned. On the 1st December, 1859, the separation of Queensland took place, and there was consequently a falling off in the revenue of this Colony in the following year, the amount collected being £1,319,779. Since 1860 the income of the Colony has increased in a fairly regular manner, as may be seen from the following statement :—

Steady increase in revenue.

Revenue of New South Wales.

Year.	Amount.	Year.	Amount.
	£		£
1860	1,308,925	1874	3,514,314
1861	1,421,831	1875	4,126,303
1862	1,557,639	1876	5,037,661
1863	1,534,187	1877	5,751,878
1864	1,661,805	1878	4,991,919
1865	1,899,468	1879	4,481,665
1866	2,012,079	1880	4,911,990
1867	2,012,042	1881	6,714,327
1868	2,107,157	1882	7,418,536
1869	2,202,970	1883	6,470,341
1870	2,102,697	1884	7,117,592
1871	2,238,900	1885	7,587,368
1872	2,812,011	1886	7,594,300
1873	3,330,913	1887	8,582,811

Classification of revenue.

The revenue is usually classified under four heads, Taxation, Land Revenue, Services (including revenue from railways, tramways, posts, telegraphs, and fees of various kinds), and Miscellaneous. The total receipts under each class since 1871, were as follows :—

Total receipts.

Classification of Revenue.

Year.	Taxation.	Land Revenue.	Services.	Miscellaneous.
	£	£	£	£
1871	1,063,204	497,978	561,679	116,039
1872	1,200,203	840,453	659,770	111,585
1873	1,364,806	1,137,914	728,875	99,319
1874	1,200,489	1,426,166	770,895	116,764
1875	1,122,002	2,020,629	858,497	125,175
1876	1,161,406	2,773,003	965,327	137,925
1877	1,233,132	3,236,277	1,119,532	162,937
1878	1,309,718	2,325,711	1,183,582	172,903
1879	1,272,721	1,632,024	1,328,302	248,618
1880	1,417,294	1,646,435	1,594,082	254,179
1881	1,770,849	2,820,988	1,945,076	177,414
1882	1,903,412	2,914,394	2,363,085	237,645
1883	1,891,708	1,656,069	2,666,731	255,833
1884	2,152,854	1,753,345	2,942,643	268,750
1885	2,252,651	1,876,452	3,168,463	289,802
1886	2,611,835	1,643,955	3,089,235	249,276
1887	2,664,548	2,378,995	3,245,907	293,360

Refunds

The amounts given above, as well as in the other tables referring to revenue and expenditure, represent the gross amounts. In every year there are considerable refunds made, so that the figures are somewhat too high. The amount of the refunds is now much less than formerly.

Taxation very light.

Though a revenue of £8,600,000 is derived from a population of little more than one million, the people of New South Wales are very lightly taxed, the amount falling upon each person in the community for the last seventeen years, averaging only £2 4s. 5d., of which amount the bulk is obtained indirectly through the Customs House.

Taxation per Head.

Year.	Amount of taxation per head.	Year.	Amount of taxation per head.
	£ s. d.		£ s. d.
1871	2 1 10	1881	2 6 7
1872	2 5 7	1882	2 7 11
1873	2 10 2	1883	2 5 4
1874	2 2 6	1884	2 8 10
1875	1 18 5	1885	2 8 4
1876	1 18 5	1886	2 13 4
1877	1 19 3	1887	2 12 2
1878	1 19 10		
1879	1 16 10	Average for 17 years	£2 4 5
1880	1 19 1		

Increased revenue per head.

The increase per head during the five years immediately following 1880 is due chiefly to the income derived from stamps. The year 1886 showed an increase of 5s. per head over 1885, which was due to the imposition of additional customs duties during that year. There was a slight decrease during 1887, arising from the repeal of the tariff of the previous year, which took effect on the 1st October, 1887.

Revenue from taxation.

It has been estimated that the total income of the inhabitants of the Colony during 1887 amounted to £54,275,000. The revenue derived from taxation was, as shown below, £2,664,548; equivalent, therefore, to a tax of 4·91 per cent. on the income of each person in the community. Dividing the revenue derived from taxation into the four main divisions of Customs, Excise, Stamps, and Licenses, the amount received under each head during the year 1887 was—

Revenue from Taxation, 1887.

	£	£
CUSTOMS :—		
Spirits	758,925	
Wine	45,106	
Ale and beer	69,190	
Tobacco and cigars	181,127	
Tea	106,727	
Coffee and chicory	13,069	
Sugar and molasses	134,900	
Opium	21,691	
Rice	18,468	
Dried fruits	56,247	
Malt	5,908	
Hops	7,548	
Ad valorem duties	227,131	
Specific duties	357,083	
Bonded warehouse, 20 Vic., No. 21	8,766	
Rent of goods in Queen's warehouses, &c.	61	
Total, Customs	....	2,011,947
EXCISE :—		
Ale, beer, and porter	63,565	
Duty on spirits distilled in the Colony	10,753	
Duty on tobacco, cigars, and cigarettes	128,758	
Tobacco factory license fees	1,344	
Total, Excise	....	204,420
STAMPS	... .	321,749
LICENSES :—		
Wholesale spirit dealers	8,810	
Auctioneers	4,565	
Retail and fermented spirituous liquors	96,521	
Billiard and bagatelle licenses	8,660	
Distillers and rectifiers	75	
Hawkers and pedlers	2,451	
Pawnbrokers	750	
Colonial wine, cider, and perry licenses	1,274	
Licenses under the Gunpowder Act of 1876	635	
Licenses to sell tobacco, cigars, and cigarettes	2,086	
All other licenses	605	
Total, Licenses	....	126,432
SUMMARY :—		
Customs	2,011,947	
Excise	204,420	
Stamps	321,749	
Licenses	126,432	
Total, Taxation	....	£2,664,548

Revenue from Customs and Excise.

Under the heads of Trade and Commerce will be found some particulars of the revenue from Customs as well as that obtained from Excise. The cost of collecting revenue by the Customs Department averages about 2·9 per cent., a very moderate sum, when the large area of the Colony and the length of its frontiers are considered.

Stamp Duties.

Stamp Duties were abolished in 1873, but reimposed in 1880. During 1887 they yielded a revenue of £321,749, or about 6s. 3d. per head, while the cost of collection was very trifling, amounting in 1887 to £4,588, or only 1·42 per cent. of the amount received.

Stamp Duties are imposed :—

1. On all agreements not under seal, except such as relate to the hire of servants or employés, and to the sale of goods.

2. On bills of exchange, excepting Government Debentures, Treasury notes or drafts, or advance notes issued by the master of a ship in favour of a seaman.

3. On bills of lading, and on all drafts or cheques, except those issued on account of the Public Service.

4. On all conveyances or transfers of any property, except on mortgages of real property or mortgage given by way of bills of sale of live stock, goods, or personal estate generally, and any transfer, release, reconveyance, or discharge thereof, and any preferable liens or liens on crops.

5. On all deeds of any kind whatever, except custom bonds, bail bonds, bonds to the Crown for the safe custody of an insane person, or bond on appointment of special bailiff.

6. On all grants from the Crown or certificates of title, leases, memorandums of transfers, policies of insurance, bank notes, and all receipts given upon payment of the sum of £2 and upwards.

Probate duty.

In addition to the above, a duty is levied on the value of estates of deceased persons, and on settlements of property taking effect after the death of the testator.

REVENUE FROM CROWN LANDS.

Revenue from Crown lands.

income derived from the Crown lands of the Colony has va very considerably during the seventeen years shown in a subsequent table, the lowest amount received being in 1871, when the revenue was only £497,978, or, at the rate of 19s. 7d. per head, while the greatest sum was obtained in 1877, when the receipts amounted to £3,236,277, or at the rate of £5 2s. 11d. per head of the population. The revenue for 1887 amounted to £2,378,995 grouped under the following heads :—

Land Revenue—1887.

	£
SALES :—	
Auction sales	172,553
Improved purchases, &c.	166,118
Deposits on conditional purchases	90,520
Instalments on conditional purchases (inclusive of interest)	561,496
Balances on conditional purchases	97,085
Miscellaneous purchases	10,913
Total, Land sales	£1,098,685
Interest on land conditionally purchased	£123,091
PASTORAL OCCUPATION :—	
Pastoral leases (runs) 15 years	644,279
Conditional leases	67,974
Annual leases	17,648
Occupation licenses	329,010
Homestead leases, 15 years	20,167
Quit rents	456
Total, Pastoral occupation	£1,079,534
MINING OCCUPATION : -	
Mineral leases	26,754
Mineral licenses	2,250
Leases of auriferous lands	7,878
Miners' rights	5,453
Business licenses	1,626
Total, Mining occupation	£43,961

Miscellaneous Land Receipts :—	£
Licenses to cut timber, &c.	6,719
Fees on transfer of runs	836
Fees on preparation and enrolment of title-deeds	4,127
All other receipts	22,042
Total, Miscellaneous Land receipts	£33,724
Total, Land revenue	£2,378,995

Falling off in land revenue.

A very great falling off in the land revenue will be observed from 1882 to 1886. This was due in the first instance to the stoppage of auction sales in 1883, and secondly, to the difficulties encountered in bringing the Crown Lands Act of 1884 into operation. These difficulties have now been overcome, with the result that a considerable increase in revenue was obtained in 1887.

Land revenue.

The total income derived from land since 1871, as well as the amount per head of population, are given below :—

Year.	Land Revenue.	Proportion per head of population.	Year.	Land Revenue.	Proportion per head of population.
	£	£ s. d.		£	£ s. d.
1871	497,978	0 19 7	1880	1,646,435	2 5 4
1872	840,453	1 11 11	1881	2,820,988	3 14 2
1873	1,137,914	2 1 9	1882	2,914,394	3 13 4
1874	1,426,166	2 10 6	1883	1,656,069	1 19 8
1875	2,020,629	3 9 2	1884	1,753,345	1 19 10
1876	2,773,003	4 11 9	1885	1,876,452	2 0 6
1877	3,236,277	5 2 11	1886	1,643,955	1 13 7
1878	2,325,711	3 10 8	1887	2,378,995	2 6 6
1879	1,632,024	2 7 3			

Revenue derived from sales and occupation of Crown lands.

The revenue derived from the Crown lands may be divided into two main classes—receipts from sales, and from pastoral or other occupation. The amount received under each head was as follows :—

Year.	Sales.	Occupation.	Year.	Sales.	Occupation.
	£	£		£	£
1871	262,531	235,447	1880	1,382,026	264,409
1872	436,483	403,970	1881	2,483,338	337,650
1873	845,410	292,504	1882	2,455,041	459,353
1874	1,163,572	262,594	1883	1,269,480	386,600
1875	1,760,570	260,059	1884	1,363,483	339,862
1876	2,513,404	259,599	1885	1,314,552	562,096
1877	2,967,857	268,420	1886	1,206,438	437,516
1878	2,076,004	249,700	1887	1,221,781	1,157,219
1879	1,386,687	245,337			

Practice of treating proceeds of sales as revenue.

The practice of treating money derived from the sale of Crown lands as revenue obtains in all the Australian Colonies, and the money so raised forms one of the largest items of their annual income. In New South Wales the sums realized from this source have been in certain years so considerable as to leave a large surplus when all charges upon the public revenue have been defrayed. The revenue derived from the sale of Crown lands may be subdivided into receipts from *(a)* Auction sales and selections after auction; *(b)* Improvements and other purchases; and *(c)* Conditional sales. Auction sales were to a large extent suspended in 1883, but previously to that year the income derived from this source was very large, as may be seen hereunder.

Revenue from Crown lands sold at auction.

Year.	Auction sales.	Selections after auction.	Total.
	£	£	£
1871	92,994	24,530	117,524
1872	89,129	89,588	178,717
1873	300,229	104,496	404,725
1874	553,973	106,042	660,015
1875	1,019,053	102,440	1,121,493
1876	1,561,243	98,280	1,659,523
1877	1,967,057	166,730	2,133,787
1878	1,061,670	124,197	1,185,867
1879	698,981	66	699,047
1880	435,572	42,363	477,935
1881	566,404	351,885	918,289
1882	707,594	417,715	1,125,309
1883	178,304	37,480	215,784
1884	95,772	767	96,539
1885	118,738	....	118,738
1886	111,083	....	111,083
1887	172,553	....	172,553

Large alienations at auction.

It will be observed that the alienation of the public estate by means of auction sales and unconditional selections after auction attained its highest point during the years 1875 to 1878. A temporary lull took place in the two following years, but in 1881 and 1882, the auction sales of Crown lands reached nearly the same proportions as before. It was not until it had become evident that this indiscriminate sale of the public estate was threatening to endanger the true interests of the country that this form of alienation was stopped. In 1883, auction sales were almost completely suspended, the receipts from this source immediately falling from £1,125,309 in 1882 to £96,539 in 1884 and £172,553 in 1887.

Limitation of auction sales.

The fact had forced itself upon the attention of the authorities that this wholesale alienation of Crown lands was not due to the demand created by the normal progress of settlement, but was the outcome of an unhealthy rivalry between the two principal classes of settlers—the pastoral tenants, and the free selectors. Besides this, the estate of the country was being parted with without any conditions as to improvements or settlement, and as the great object of land sales was to promote settlement, it was deemed advisable by the Government to temporarily suspend land sales by auction, and ultimately it was decided to sell only a limited area during any one year.

Improvement and pre-emptive purchases.

Another portion of the land revenue is obtained from the sales, without competition, to the legal occupiers of Crown lands improved to the value of £1 per acre. To this form of alienation may be added purchases of land made by right of pre-emption on a fixed proportion of the total area held under lease in certain cases.

Revenue from improvement purchases and pre-emptive sales.

From these sources (improvement purchases and pre-emptive sales), the following amounts were received into the Colonial Treasury since the year 1877 :—

Year.	Improvement Purchases.	Pre-emptive Right Sales.	Total.
	£	£	£
1877	133,358	77,263	210,621
1878	239,943	20,049	259,992
1879	156,471	4,743	161,214
1880	245,094	5,799	250,893
1881	494,262	2,908	497,170
1882	179,949	1,041	180,990
1883	117,561	1,345	118,906
1884	305,455	4,450	309,905
1885	408,721	....	408,721
1886	260,526	....	260,526
1887	166,118	....	166,118

Revenue from conditional sales.

Conditional sales formed the main feature of the Land Act of 1861. From 1862, when these sales commenced, to 1887, the nominal area of land sold conditionally amounted to 26,281,332 acres, or equal to 13 per cent. of the total area of the Colony. The total receipts in respect of such land were :—

For deposit	£6,276,182
Balance of purchase	3,450,069
Interest	2,728,749
Total	£12,455,000

Total receipts from conditional sales.

The following table shows the gross amount received during each of the eleven years ending with 1887, as well as the total since this class of sales was first permitted.

Revenue from Conditional Sales.

Year.	For Deposit.			For Balance of Purchase.									For Interest.			Gross amount realized.		
				Balance.			Instalments.			Total.								
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1862 to 1875	2,083,414	9	9	301,979	16	10	....			301,979	16	10	383,928	14	2	2,769,323	0	9
1876	496,053	8	2	68,834	1	5	....			68,834	1	5	99,328	14	8	664,216	4	3
1877	424,954	0	0	71,852	15	6	....			71,852	15	6	126,657	8	9	623,464	4	3
1878	398,728	11	1	47,060	8	8	23,774	16	9	70,835	5	5	160,581	1	1	630,144	17	7
1879	232,285	2	9	37,030	9	7	87,131	5	6	124,161	15	1	171,147	17	11	527,594	15	9
1880	293,112	17	7	41,849	5	11	113,603	1	1	155,452	7	0	204,634	2	7	653,199	7	2
1881	592,965	16	1	92,009	1	9	129,546	17	1	221,555	18	10	253,356	14	0	1,067,878	8	11
1882	621,617	1	11	109,666	12	5	129,921	0	7	239,587	13	0	287,526	13	9	1,148,731	8	8
1883	424,968	0	10	58,313	10	4	137,277	8	9	195,590	19	1	310,676	6	7	931,235	6	6
884	381,550	4	0	61,466	3	5	183,080	19	3	244,547	2	8	326,183	18	9	952,281	5	5
885	121,436	13	11	68,138	9	2	440,286	8	2	508,424	17	4	151,657	19	7	781,519	10	10
886	112,892	9	9	74,503	15	10	514,162	0	0	588,665	15	10	129,978	4	5	831,536	10	0
1887	92,202	15	6	96,562	8	3	562,018	16	0	658,581	4	3	123,090	14	5	873,874	14	2
Total	6,276,181	11	4	1,129,266	19	1	2,320,802	13	2	3,450,069	12	3	2,728,748	10	8	12,454,999	14	3

ote.—This return was compiled from data furnished by the Lands Department, and differs slightly from the Treasury figures given elsewhere.

Large sums refunded.

The figures in the foregoing table represent the gross amounts paid, but in the case of the deposits large sums were received which were afterwards refunded, as the ground applied for was not open to selection. The area set down as sold conditionally is on this account also greatly overstated, and, moreover, includes the area of selections which became forfeited for non-fulfilment of conditions, or on other grounds. The actual area sold conditionally up to the close of 1887 was 18,043,882 acres, but the conditions remain unfulfilled in respect of 16,624,323 acres.

The refunds of deposits paid on land conditionally selected have reached considerable amounts in some years, as will be seen from the following statement :—

Year.	Amount of refunds.	Year.	Amount of refunds.
	£		£
1878	80,290	1883	132,092
1879	12,255	1884	134,932
1880	28,256	1885	85,868
1881	72,475	1886	69,024
1882	92,804	1887	41,986

Revenue from pastoral occupation.

Another portion of the annual land revenue of the Colony is derived from rents for pastoral occupation, and mineral and other leases. During 1886 the revenue obtained from this source amounted to only £374,920, as the rents were collected according to the old assessment, but it was estimated that more than £500,000 was due at the close of the year for rents accumulating during the previous eighteen months. By an Act of the Legislature, assented to on the 13th July, 1887, the arrears of rent were made payable over a period of two years, with interest at the rate of 5 per cent. During 1887 the rents were paid on the basis of the new tenure, and a large increase is therefore observable under the head of pastoral leases and occupation licenses. The following e gives the annual revenue from pastoral occupation for the ears, 1877-87 :—

Annual Revenue from Pastoral Occupation.

Head of Revenue.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
	£	£	£	£	£	£	£	£	£	£	£
Pastoral leases............	178,681	165,765	158,776	166,278	221,149	343,333	272,959	268,[illegible]5	140,940	131,893	644,279
Annual and special leases....................	51,176	50,186	51,650	55,415	63,968	65,417	66[illegible]	[illegible]4	15,881	17,914	17,648
Conditional and auction leases....................	......	......	......	......	......	...[illegible]	[illegible]	[illegible]	37,136	59,558	67,974
Occupation licenses	......	......	......	......	......	......	......	......	294,686	153,493	329,010
Homestead leases	......	......	......	......	......	......	......	......	15,768	10,660	20,167
Quit rents.........	249	141	407	931	886	494	477	507	202	1,402	456
Total	230,106	216,092	210,833	222,624	286,003	409,244	340,130	329,356	504,613	374,920	1,079,534

The revenue derived from mining occupation has not been large, though somewhat brighter, since 1884 than previous to that year, a circumstance due chiefly to the increased attention paid to silver-mining. The following table gives the revenue under each head for ten years:— Revenue from Mining Leases.

Revenue from Mining Occupation.

Head of Revenue.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
	£	£	£	£	£	£	£	£	£	£
Mineral leases	5,138	5,570	9,569	7,088	7,119	8,221	15,363	20,750	19,049	26,754
Mineral licenses	302	368	1,432	1,187	1,277	1,573	2,780	2,311	1,588	2,250
Leases of auriferous lands	2,725	3,290	2,422	4,775	5,195	2,640	4,111	2,991	4,510	7,878
iners' rights	2,992	4,211	6,110	6,398	5,856	4,560	4,215	4,143	4,642	5,453
Business licenses	465	494	777	835	801	784	1,611	1,218	1,453	1,626
Total	11,622	13,933	20,310	20,283	20,248	17,778	28,080	31,443	31,242	43,961

REVENUE FROM RAILWAYS AND OTHER SERVICES.

Revenue from services.

The revenue derived from services rendered now exceeds that from either taxation or land,—the respective proportion under each head for 1886 and 1887 being—

	1886	1887
Services	40·7 per cent.	37·8 per cent.
Taxation	34·4 „	31·0 „
Land	21·6 „	27·7 „
Miscellaneous	3·3 „	3·5 „

Government is owner of railways, &c.

The Government of New South Wales is the owner of all the railways constructed in the Colony, with the exception of 45 miles of line between Moama and Deniliquin. It owns, also, the entire telegraphic and telephonic system of the Colony, as well as the Post Office. From these, and some other minor sources, the revenue, classed under the head of Services, was obtained. The total amount received for Services during the year 1887, under the different heads, was —

Revenue from Services during 1887.

	£	£
Railway and tramway receipts	....	2,510,335
Post Office :—		
Postage	341,768	
Telegraph receipts	167,612	
Commission on money orders	14,918	
		524,298
Mint receipts	....	10,328
Fees for escort and conveyance of gold	....	759
Pilotage, harbour and light rates, and fees	....	49,389
Registration of brands	....	1,077
Public School fees	....	64,424
Fees of office :—		
Certificates of naturalization	114	
Registrar General	33,485	
Prothonotary of Supreme Court	7,471	
Master in Equity	1,734	
Curator of Intestate Estates	1,541	
Insolvent Court	4,284	
Sheriff	2,369	
District Courts	8,173	
Courts of Petty Sessions	9,038	
Shipping Masters	2,610	
Other fees	14,478	
		85,297
Total receipts from Services	£	3,245,907

Total revenue from services.

The total revenue derived from Services during each year since 1871 will be found in the following table, and the amount per head of population will also be found in a subsequent table.

Year.	Revenue from Services.	Year.	Revenue from Services.
	£		£
1871	561,675	1880	1,594,082
1872	659,779	1881	1,945,076
1873	728,870	1882	2,363,085
1874	770,895	1883	2,666,731
1875	858,497	1884	2,942,643
1876	965,327	1885	3,168,463
1877	1,119,532	1886	3,089,235
1878	1,183,582	1887	3,245,907
1879	1,328,302		

Railway earnings and expenditure.

There was an increase during every year of the above series, 1886 excepted, both in the total amount received, and the rate per head. The falling off in 1886 is due to a decline in the amount received from the railways, which was in that year £103,552 less than in 1885. The gross amount of revenue derived from the railways of the Colony, as also the working expenses, during each year since 1871, will be found below.

Railways: Earnings and Expenditure.

Year.	Railway Earnings.	Working Expenses.	Year.	Railway Earnings.	Working Expenses.
	£	£		£	£
1871	355,322	197,065	1880	1,161,017	647,719
1872	424,989	207,918	1881	1,444,226	738,334
1873	484,236	238,035	1882	1,698,863	934,635
1874	536,575	257,703	1883	1,931,464	1,177,788
1875	614,648	296,174	1884	2,086,237	1,301,259
1876	693,225	339,406	1885	2,174,368	1,458,153
1877	815,920	418,985	1886	2,160,070	1,492,992
1878	902,989	536,988	1887	2,208,295	1,457,761
1879	952,366	604,721			

Railways revenue and expenditure.

The question of railways and tramways is fully discussed in the chapter on Internal Communication, but a passing reference here will not be out of place. The total revenue derived from the railways, properly so called, amounted in 1887 to £2,208,295, against which sum there was a charge of £1,457,761 for working expenses alone, leaving the net earnings £750,534. The amount of money invested in the railways of the Colony upon lines open for traffic is £26,554,357, and the net earnings given above represent a return of 2·96 per cent. The returns for 1886 and 1887 were below that of any year since 1871, and are in no sense to be taken as an index of the value of the railways of the Colony. The full value of a work cannot be judged until it is completed, and the railways are essentially an incomplete work, for each year sees an extension of the lines in operation and a further investment of capital, which the proved resources of the country amply justify, though the result cannot be felt until after the lapse of many years.

Largest revenue obtained from railways.

The largest return for capital invested in railways was obtained in 1881, when the interest amounted to 5·307 per cent., a figure considerably in excess of the rate paid by the Colony for its railway loans. The average rate of interest payable on railway loans is slightly over 4 per cent., and that rate has been considerably exceeded during five years of the past decade, while in the remaining years the interest has varied from 2·901 to 3·741 per cent. The deficiency for 1887 was 1·04 per cent., equivalent to about £276,175, which was made good out of the general revenue.

Revenue from tramways.

The revenue derived from the public tramways has increased year by year since the system was introduced in 1879, but the working expenses have also increased, though it is satisfactory to note that the expenses apparently reached a maximum in 1884, and the amount available towards the payment of interest has increased since that year. The earnings of the tramways, as well as the expenditure in connection therewith, are shown in the following table.

Tramways: Earnings and Expenditure.

Year.	Total Length of Lines.	Capital Expended on Lines open.	Total Earnings.	Working Expenses.	Net Earnings.
	Miles.	£	£	£	£
1879	1½	22,061	4,416	2,278	2,138
1880	4½	60,218	18,980	13,444	5,536
1881	11¼	181,659	62,549	52,107	10,442
1882	29½	447,939	128,354	120,181	8,173
1883	32½	579,439	193,929	183,218	10,711
1884	35	683,179	223,454	215,085	8,368
1885	35	748,506	227,144	207,898	19,246
1886	36½	854,260	234,142	208,687	25,456
1887	51	923,608	229,773	215,039	14,734

Revenue from Posts and Telegraphs.

The receipts from the Post and Telegraph services of the Colony have increased substantially year by year, but so also has the expenditure. Although the sum of £524,298 was obtained during 1887 from this source, the expenditure amounted to £633,812, showing a loss on the year's transaction of £109,514, in addition to the amount of interest payable on the debt incurred for these works. Though both the Postal and Telegraphic services are carried on as far as practicable on commercial principles, a deficiency is experienced every year. The reason of the deficit is found in the desire of the Government to extend the facilities of both the post and telegraph to every part of the Colony. And so important has this policy appeared, that it has been carried out with considerable loss, as will be seen from the table given below. It is quite possible that the principle of affording the benefit of postal and telegraphic communication to every district of New South Wales would be adhered to even if the system ultimately failed to become self-supporting; but the time cannot be far

revenue derived will more than meet the expenses.

Revenue and Expenditure.

Postal and Telegraphic Services.

Year.	Revenue.	Expenditure.	Year.	Revenue.	Expenditure.
	£	£		£	£
1877	224,449	312,226	1883	403,794	504,055
1878	226,405	352,157	1884	442,964	542,182
1879	259,170	383,391	1885	472,564	570,999
1880	286,134	396,301	1886	486,218	610,651
1881	330,414	421,594	1887	524,298	633,812
1882	358,525	446,658			

Receipts from Miscellaneous Services.

The miscellaneous receipts under the head of Services comprise fees of office, which amounted to £85,297 in 1887. Public school fees, £64,424; pilotage and harbour fees, £49,389; mint and escort receipts, £11,087; and registration of brands, £1,077; the total being £211,274. The revenue derived from the services above mentioned are merely nominal, as the cost and value of the service performed in each case far exceed the revenue. The amount received during each year, from 1871 to 1887, was:—

Year.	Miscellaneous Services.	Year.	Miscellaneous Services.
	£		£
1871	81,534	1880	118,384
1872	88,929	1881	154,978
1873	86,803	1882	176,466
1874	88,334	1883	181,809
1875	95,825	1884	197,666
1876	96,053	1885	203,209
1877	95,136	1886	213,880
1878	96,892	1887	211,274
1879	92,234		

Miscella
items of

The revenue derived from other sources besides Taxation, Lands, and Services, amounted to only £300,000 in 1887, made up chiefly by rent, fines, and forfeitures, and a variety of miscellaneous receipts, as will be seen hereunder.

Miscellaneous Receipts during 1887.

	£	
RENTS—Exclusive of land—		
Tolls and ferries	6,957	
Wharves	35,817	
Government buildings and premises	8,321	
Total, Rents—exclusive of land	......	£51,095
FINES AND FORFEITURES—		
Sheriff	1,458	
Courts of Petty Sessions	15,485	
Crown's share of seizures, &c.	953	
Confiscated and unclaimed property	31	
Other fines	428	
Total, Fines and forfeitures	......	£18,355
UNCLASSIFIED RECEIPTS—		
Amount transferred from the Public Instruction Endowment Account, under the 6th clause of the Act 44 Vic., No. 19, in aid of the Public Schools of the Colony	3,716	
Sale of Government property	5,888	
Support of patients in Lunatic Asylums	9,464	
Collection by Government Printer	6,241	
Store rent and carriage of gunpowder	12,987	
Work performed by prisoners in gaol	16,022	
Fees on presenting Private Bills to Parliament and on Letters of Registration	3,943	
Interest on bank deposits	57,359	
Glebe Island Abattoir receipts	9,306	
Fitzroy Dock receipts	1,532	
Assessment on sugar refinery	1,500	
Receipts under Fisheries Act	5,427	
Other receipts	80,326	
Total, Unclassified receipts	......	£223,911
Total, Miscellanecus receipts	......	£293,361

Revenue per head of the population.

The total revenue of the Colony amounted in 1887 to £8 7s. per head, which, though nominally a very large sum compared with the revenue of other countries, falls short of the highest amount received in any year, viz., £9 6s. 8d., in 1882, by 18s. 10d. Under the present system of taxation it is anticipated that the revenue will average about £8 per head; and though an increase may be expected in the gross amount obtained under each branch of revenue, it is scarcely probable that the amount received per head will advance beyond the rate of 1887, especially as the increase in land revenue will not be proportionate to the increase in population.

Revenue per head from various sources.

The amounts received per head of population under each subdivision during the years 1871–1887 were—

Taxation and Revenue per Head.

Year.	Taxation.	Land Revenue.	Services.	Miscellaneous.	Total Receipts.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1871	2 1 10	0 19 7	1 2 1	0 4 7	4 8 1
1872	2 5 7	1 11 11	1 5 1	0 4 2	5 6 9
1873	2 10 2	2 1 9	1 6 9	0 3 8	6 2 4
1874	2 2 6	2 10 6	1 7 4	0 4 2	6 4 6
1875	1 18 5	3 9 2	1 9 4	0 4 3	7 1 2
1876	1 18 5	4 11 9	1 11 11	0 4 7	8 6 8
1877	1 19 3	5 2 11	1 15 7	0 5 2	9 2 11
1878	1 19 10	3 10 8	1 16 0	0 5 3	7 11 9
1879	1 16 10	2 7 3	1 18 6	0 7 2	6 9 9
1880	1 19 1	2 5 4	2 3 11	0 7 1	6 15 5
1881	2 6 7	3 14 2	2 11 2	0 4 8	8 16 7
1882	2 7 11	3 13 4	2 19 5	0 6 0	9 6 8
1883	2 5 4	1 19 8	3 3 11	0 6 2	7 15 1
1884	2 8 10	1 19 10	3 6 10	0 6 1	8 1 7
1885	2 8 4	2 0 6	3 8 0	0 6 2	8 3 0
1886	2 13 4	1 13 7	3 3 0	0 5 1	7 15 0
1887	2 12 2	2 6 6	3 3 6	0 5 8	8 7 10

PUBLIC EXPENDITURE.

Expenditure per head of the population, 1887.

The expenditure of the Colony, exclusive of loans during the eleven years which closed with 1887, amounted on an average to £8 8s. 6d. per head—the amount for the last four years considerably exceeding this average. During 1887, the gross expenditure amounted to £9,098,460, of which sum £7,701,144 was expended on account of services rightly chargeable to the year itself, whilst the balance, amounting to £1,397,316, was for the service of 1886 and previous years.

Expenditure under various heads in 1877 and 1887.

The percentage of expenditure has been grouped under seven heads, as shown below, with the object of comparing the present expenditure with that of eleven years ago. The proportion falling under each head of service during the years 1877 and 1887 respectively, was—

Expenditure on Services.	1877.	1887.
	per cent.	per cent.
Railways and Tramways	10·08	18·67
Post and Telegraphs	6·93	6·96
Other public works	17·91	12·89
Public debt charge	13·15	18·62
Immigration	1·54	·35
Public Instruction	6·17	7·90
Other services	44·22	34·61

Increase in expenditure to what traceable.

The most notable increase observable is in the proportion of total revenue expended on railway and tramway services. The increase in the proportion expended on education is also large, while the payments on account of the Public Debt have advanced from 13·15 to 18·62 per cent., which is less serious than at first sight appears, as a large part of the debt charges are recouped by the earnings of works constructed out of the loan funds. The absolute [illegible] during each of the past ten years was—

Public Expenditure, exclusive of Expenditure from Loans, during each year from 1877 to 1887.

Year.	Railways and Tramways.	Post and Telegraphs.	Other Public Works.	Interest on Debt and Extinction of Loan.	Immigration.	Public Instruction.	Other Services.	Total Expenditure.
	£	£	£	£	£	£	£	£
1877	453,598	312,226	806,325	591,744	69,332	277,666	1,990,319	4,501,210
1878	698,446	352,157	1,058,762	587,552	95,122	383,711	1,902,631	5,078,381
79	809,245	383,391	1,314,819	584,339	82,123	387,786	2,183,806	5,745,509
	838,559	396,301	1,224,521	715,994	43,522	385,567	1,898,296	5,502,760
1	786,269	421,594	1,139,671	719,752	45,966	552,363	2,123,327	5,788,942
1882	1,031,720	446,658	1,132,041	969,198	46,301	665,901	2,063,791	6,355,610
1883	1,439,327	504,055	1,262,806	927,905	112,319	879,120	2,665,556	7,791,088
1884	1,585,603	542,182	1,494,983	1,047,322	120,038	817,767	2,806,465	8,414,360
1885	1,729,894	570,999	1,323,991	1,300,184	52,050	751,335	2,838,035	8,566,488
1886	1,710,495	610,651	1,248,877	1,579,689	35,397	741,121	3,152,639	9,078,869
1887	1,698,716	633,813	1,172,993	1,693,926	31,534	718,422	3,149,056	9,098,460

Increase of public expenditure.

In a country advancing so rapidly in population as New South Wales, the value of figures, such as are given in the above table, is apt to be misunderstood, for, though the absolute increase in public expenditure during the ten years amounts to 102 per cent., the population has increased 62 per cent. Nor must the fact be overlooked that much of what is now expended out of current revenue is for the advantage of future years, and for the development of the resources of the country; and that the expenditure on certain services is incurred in order to obtain additional revenue. But even when such allowance is made, it will be found there has been no slight advance, especially since 1882, as will be seen from the table here given of the expenditure per head, under the several groups.

Expenditure per Head, exclusive of Expenditure from Loans.

Year.	Railways and Tramways.	Post and Telegraphs.	Other Public Works.	Interest on Debt, &c	Immigration.	Public Instruction.	Other Services.	Total Expenditure.
	£ s. d.	s. d.	£ s. d.	s. d.	s. d.	s. d.	£ s. d.	£ s. d.
1877	0 14 5	9 11	1 5 8	18 10	2 2	8 10	3 3 3	7 3 1
1878	1 1 3	10 8	1 12 2	17 10	2 11	11 8	2 17 10	7 14 4
1879	1 3 5	11 1	1 18 1	16 11	2 4	11 2	3 3 2	8 6 2
1880	1 3 1	10 11	1 13 9	19 9	1 2	10 7	2 12 4	7 11 7
1881	1 0 8	11 1	1 10 0	18 11	1 3	14 6	2 15 10	7 12 3
1882	1 5 11	11 3	1 8 6	24 5	1 2	16 9	2 11 11	7 19 11
1883	1 14 6	12 1	1 10 3	22 3	2 8	21 1	3 3 11	9 6 9
1884	1 16 0	12 4	1 13 11	23 9	2 9	18 7	3 3 9	9 11 1
1885	1 17 2	12 3	1 8 5	27 11	1 1	16 2	3 1 0	9 4 0
1886	1 14 11	12 5	1 5 6	32 3	0 9	15 1	3 4 4	9 5 3
1887	1 13 3	12 5	1 2 11	33 2	0 7	14 1	3 1 7	8 18 0

Increase of expenditure on railways and tramways.

The expenditure on account of railways and tramways shows the largest increases during the period comprised in this table, amounting to 18s. 9d. per head.

The length of railway line in operation in 1877 was only 598 miles, while in 1887 the mileage had increased to 2,036, involving a proportionately large outlay for maintenance and working expenses, but, at the same time, bringing in revenue, which advanced much more rapidly than the expenditure. The tramway system, too, was inaugurated in 1879, and involved an expenditure of about 2s. 4d. per head in 1887, for which there was, of course, no corresponding expenditure in 1877. The expense of the Public Debt has advanced 14s. 4d.; Public Instruction, 5s. 3d.; Post and Telegraphs, 2s. 6d.

Increase of expenditure on education.

The expenditure per head on account of Public Instruction, though considerably larger in 1887 than ten years previously, was 7s. less than in 1883. The Public Instruction Act of 1880, abolishing state aid to denominational education, necessarily involved an increased expenditure from Public Revenue to supply the place of schools closed under the Act. The greatest activity was, therefore, displayed, especially during the year 1883, immediately following the closing of the denominational schools, both in the building and equipment of public schools, hence the increased expenditure per head noticeable in the table given above. Since 1883, the expenditure rapidly declined, and has now almost reached the normal average.

Expenditure upon Post and Telegraph.

The increase in the expenditure for 1887 over 1877 upon Post and Telegraphs represents really an advance in the average business transacted by each member of the community, and is accompanied by a corresponding increase in the receipts from this service.

Expenditure for public works.

The expenditure upon public works during 1887 was slightly less per head than in 1877, though considerably less than in most of the intervening years. The large surplus which the Government had at its disposal during the period immediately following 1877, enabled a profuse expenditure on public works, which, under other circumstances, might not have been undertaken; hence the large increase during the years in which the surplus was available.

The absence of an Act placing the responsibility of local works upon the persons actually concerned has necessitated the expenditure, out of the public funds, of large sums upon works only locally important, and, therefore, not strictly chargeable to the public revenue. The Local Government Bill now before Parliament proposes to remedy this state of things, and a decrease in the expenditure upon public works may be anticipated.

Expenditure for other services.

Under the head of "Other Services" are included Civil Administration, Defence, Administration of Lands, Mining, and Law. The expenditure per head has been fairly uniform from year to year.

Accumulated surplus revenue at the close of each year.

During the fourteen years which elapsed from 1872 to 1885, New South Wales presented the spectacle, almost unique in these colonies, of a government with a large surplus of revenue at its disposal. The amount standing to the credit of the Consolidated Fund at the close of each year from 1872 to 1885, was :—

Year.	Accumulated surplus.	Year.	Accumulated surplus.
	£		£
1872	132,238	1879	1,341,619
1873	925,069	1880	1,440,228
1874	825,605	1881	2,927,435
1875	1,110,992	1882	3,888,753
1876	1,945,807	1883	2,511,016
1877	2,351,074	1884	1,229,338
1878	1,922,784	1885	2,900

Advances made from surplus.

The figures given above represent the amounts actually at the credit of the current account of the Consolidated Revenue. The actual surplus differed somewhat from these amounts, by reason of temporary advances made to loan or other funds out of accumulated surplus. The gross credit balance at the close of 1878 was £3,872,784. The years 1881 and 1882 also yielded surpluses to the extent of £1,441,338 and £1,086,308 in each year as named, making a total surplus of £6,400,430. For the services of 1878 and previous years, the sum of £1,377,321 was expended, while in 1879, 1880, 1883, and 1884 the income was exceeded by £1,306,267, thus reducing the surplus to £3,716,932, at the close of 1884. Specific appropriations were made by Parliament out of this sum to the extent of £3,419,174 and £119,993 was written off; thus leaving a balance retained for expenditure at the close of 1884 of £177,776, the difference between the amount just stated and that shown in the preceding table having been temporarily advanced to revenue from various sources.

Proposals for meeting deficit.

The state of things depicted above was entirely changed during 1886. The disbursements from 1883 to 1886 were nominally more than the income, chiefly through the large appropriations of the surpluses of former years. Thus the year 1885 closed with a sum of £2,900 to the credit of the Revenue Fund, while 1887 opened with a nominal deficit of £1,286,581, and 1888 with a deficit of £2,179,580, due to payments on account of previous years. The proposals of the Treasurer for the wiping out of the deficit were foreshadowed in a statement made on the 30th March, 1887, and it was determined that the deficit should be treated as a matter quite distinct from the ordinary finances of the year. The return of prosperity, which appears to have set in, bids fair to enable the expectations of the Treasurer to be realized and equilibrium again restored to the finances of the country.

LOANS.

First loan issued in 1841.

On the 28th December, 1841, a loan of £49,500 was issued for the purposes of immigration, having a currency of two years, and bearing interest at the rate of 5¼d. per day for each £100, or at the rate of 8 per cent. per annum. Loans for similar purposes were raised during the years 1843–6, but were met out of revenue, within a few years of the date of raising. In 1851, however, a sum of £79,600 was borrowed, also for immigration purposes, part only of which was paid out of the general revenue, the remainder being met by a fresh loan; and though no loans raised prior to 1853 remain outstanding, the loan of 1851 must be taken as the actual commencement of the Public Debt of New South Wales. From 1853 to the close of 1887, the total sum authorized to be raised by loan was £54,016,960, and the amount of debentures and inscribed stock issued and sold was £43,638,019. The gross sum realized by the floating of the various loans was £41,636,436. Securities were, however, redeemed absolutely to the extent of £2,642,670. Thus, at the close of 1887, the total of loans outstanding was £40,995,349, and the sum still to be raised, £12,262,623. The purpose for which the loans were raised, as well as the proportions chargeable to each service, are shown in the following table:—

Growth of the Public Debt.

Purposes for which loans were raised.

Appropriation of Loans.

Services.	Principal.	Interest.
	£	£
Railways and Tramways	33,556,628	1,333,301
Electric Telegraphs	683,310	30,108
Harbours and Rivers Navigation	1,998,706	82,073
Roads and Bridges	587,006	26,447
Immigration	387,663	18,863
City of Sydney Sewerage	592,123	24,217
Do do Water Supply	1,526,100	61,220
Miscellaneous Public Works	1,663,813	66,905
Total	40,995,349	1,643,135

Present amount of public debt.

The present amount of the public debt is undoubtedly large; but no portion of it is due to war charges, and very little to works of an entirely unproductive character, so that the burden on the resources of the country is more apparent than real. The assets of the Colony amount to considerably more than four times the liabilities, and for the most part comprise securities which could readily be converted into money. At a moderate computation, the public resources of New South Wales were estimated to be worth, at the beginning of the year 1887, £178,000,000, made up of the following leading items:—

Estimated value of the public resources.

Unalienated lands and balance on lands sold conditionally	£114,000,000
Railways, Tramways, Public Works, &c.	64,000,000
Total	£178,000,000

Expenditure incurred on reproductive works.

The bulk of the expenditure shown in the above statement has been incurred on directly reproductive works, yielding, or capable of yielding, revenue towards meeting the charge for interest. The other works, not directly productive, have been undertaken for the development of the resources of the Colony, and for facilitating settlement. The net revenue from the public works of the country is almost entirely comprised in that derived from railways, as some of the most important works, such as the water supply and sewerage of the metropolis, havenot yet been finished, and, consequently, do not bring in any appreciable income. When, however, these undertakings are completed, and the railways of the Colony are in full operation, the sum available to meet interest and other charges will leave little to be made good from the general revenue of the Colony.

Revenue from reproductive works.

Expenditure from loans and public debt.

The following statement shows the amount of loans authorized by Parliament for public purposes, the amount raised, the expenditure during each year, and the interest paid, as well as the rates per head of population.

Expenditure from Loans and Interest paid from 1877 to 1887, with total Sum authorized to be raised, and Public Debt.

Year.	Total expenditure from Loans at the close of each year.		Expenditure from Loans during each year.		Expenditure on account of interest during the year.		Loans authorized, but not yet raised.	Public debt at close of each year.	
	* Amount.	Per head total population.	Amount.	Per head mean population.	Amount.	Per head mean population.		Amount.	Per head total population.
	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£	£ s. d.
1877	14,349,506	22 5 10	995,454	1 11 8	517,359	0 16 5	4,481,742	11,724,419	18 4 3
1878	15,165,823	22 11 5	816,317	1 4 10	517,377	0 15 9	4,481,647	11,688,119	17 7 11
1879	16,437,528	23 3 4	1,271,705	1 16 10	516,249	0 14 11	8,729,123	14,937,419	21 1 1
1880	18,106,147	24 8 1	1,668,619	2 6 0	647,294	0 17 10	9,891,123	14,903,919	20 1 9
1881	20,503,515	26 6 7	2,397,368	3 3 1	647,642	0 17 0	16,585,993	16,924,019	21 14 8
1882	23,336,274	28 15 7	2,832,759	3 11 3	727,988	0 18 4	16,585,993	18,721,219	23 1 9
1883	26,601,985	31 0 3	3,265,711	3 18 3	798,620	0 19 2	13,581,487	24,632,459	28 14 4
1884	30,276,692	33 9 10	3,674,707	4 3 5	977,899	1 2 2	19,261,462	30,101,959	33 6 0
1885	34,172,837	35 13 6	3,896,145	4 3 8	1,230,441	1 6 5	14,314,123	35,564,259	37 2 6
1886	37,939,193	37 17 3	3,766,356	3 16 10	1,579,436	1 12 2	12,262,623	41,034,249	40 19 1
1887	39,918,697	38 5 6	1,979,504	1 18 9	1,602,421	1 11 4	12,262,623	40,995,349	39 6 2

* When the figures in this column exceed the amount of loans raised, advances have been made to loan funds from consolidated revenue or other funds.

Increase of the public debt.

The net increase in the public debt during the ten years, which ended with 1887, was £29,270,930, involving an increase in the annual charge for interest of £1,085,062. During the same period the indebtedness per head advanced from £18 4s. 3d. to £39 6s. 2d., and the charge per head for interest from 16s. 5d. in 1877 to £1 11s. 4d. in 1887.

Advances from surplus revenue.

Owing to the large surplus revenue available during the greater part of the period embraced in the table given above, the amount of public debt was less than the sum actually expended on account of loans, as advances were made in anticipation of loans authorized to be floated in the London market. The advances in some years reached considerable sums. This was noticeable in 1882, when the total of such advances, being the difference between the amount expended and that raised, was not less than £4,615,055. In 1885, however, the balance of surplus revenue available for advances disappeared, and the loans raised have, therefore, since that year exceeded the expenditure chargeable to loan votes, as will be seen by the statement given above, the unexpended balance in hand at the close of 1887 being £1,076,653.

Increase of public debt greater than that of population.

Taking the expenditure from loan votes as a measure of the increase of the Colony's indebtedness, it will be seen that during the years 1877–87 the total expenditure increased more than 178 per cent., a rate of growth much more rapid than that of the population—the expenditure per head in 1877 amounting to £22 5s. 10d., while ten years later it had advanced to £38 5s. 6d., a rate of increase averaging £1 12s. per annum. In few countries of the world would this rate of increase be justifiable, but in New South Wales, whose immense resources are still in a state of partial development, the expenditure gives cause for no uneasiness to the creditors of the Colony. The total expenditure in the eleven years amounted to £26,721,612, of which £21,210,495 was for railways, £273,687 for telegraphs, and £3,146,058 for water and sewerage, the remaining expenditure, amounting to £2,241,326, was incurred mainly for works and buildings necessary for the development of the resources of the Colony or incidental to its progress.

Cost of public works charged to general revenue.

It has been a practice of long standing to charge the cost of constructing public works, other than those of national importance or built equally for the requirements of the future as of to-day, to the general revenue of the Colony. This practice is rarely departed from, and the amount of loans spent on works which do not come within such definition, is comparatively trifling. The subsequent table gives the amount of the public debt at the close of each year since 1869. It will be seen that the increase for the first ten years in the indebtedness was very small, averaging less than £240,000 per annum; hence it is that, when in the latter years, much greater activity was manifest in the construction of public works, the increase was at the rate of nearly £3,300,000 per annum, though the mean yearly increase spread over the whole period of nineteen years was only £1,750,000.

Public debt, 1869-86.

Year.	Public Debt.	Year.	Public Debt.
	£		£
1869	9,546,030	1879	14,937,419
1870	9,681,130	1880	14,903,919
1871	10,614,330	1881	16,924,019
1872	10,773,230	1882	18,721,219
1873	10,842,415	1883	24,632,459
1874	10,516,371	1884	30,101,959
1875	11,470,637	1885	35,564,259
1876	11,759,519	1886	41,034,249
1877	11,724,419	1887	40,995,349
1878	11,688,119		

Provision for extinction of loans.

No loan was raised during the year 1887. By the Act 31 Vic., No. 11, provision was made for the gradual extinction of the loan raised under it, so that no money having been borrowed during the year, the amount of indebtedness at the close of 1887 was less than that of the previous year, as shown in the previous tables. Of the sum in which the Colony stood indebted, £16,778,860 was in debentures, and the balance, £24,216,489, in inscribed and funded stock. The following table gives particulars of loans floated since 1858, and from it may be seen the great improvement which has taken place in the credit of the Colony. To complete the comparison, the result of the loan of April, 1888, has been included.

Loans floated since 1858.

Loans floated since 1858.

Date of Loan.	Years' Currency.	Amount of Loan.	Amount raised.	Average rate per cent., less charges.	Nominal Interest per cent.	Real Interest per cent.		
		£	£			£	s.	d.
1858	30	130,400	125,888	90·56	5	5	13	3
1859	30	818,100	816,778	99·09	5	5	1	3
1860	30	560,900	560,654	99·20	5	5	1	0
1861	30	206,960	205,887	98·85	5	5	1	7
1862	30	495,500	485,391	97·22	5	5	3	10
1863	30	610,000	613,247	99·78	5	5	0	3
1864	30	288,300	287,609	99·01	5	5	1	5
1865	30	292,800	269,974	91·49	5	5	11	6
1866	30	1,001,900	899,216	88·49	5	5	16	4
1867	30	312,800	267,448	84·32	5	6	2	1
1868	30	1,500,000	1,430,204	88·52	5	5	16	4
1869	...	1,000,000	981,655	96·85	5	5	4	2
1870 1871	30	985,100	973,696	97·91	5	5	2	11
1872	30	406,800	422,696	103·90	5	4	15	2
1873	*	222,284	217,270	97·74	4	4	2	1
1874	*	282,955	268,808	95·00	4	4	5	11
1875	30	1,000,000	900,581	89·42	4	4	13	0
1876	30	901,500	837,180	92·22	4	4	9	4
1879	30	3,249,500	3,199,443	97·81	4	4	2	8
1881	30	2,050,000	2,120,639	102·23	4	3	17	5
1882	30	2,000,000	2,042,916	100·29	4	3	19	6
1883	50	3,000,000	3,001,067	97·56	4	4	2	4
1883	50	3,000,000	3,018,790	98·09	4	4	1	10
1884	40	5,500,000	5,152,385	91·17	3½	3	18	11
1885	40	5,500,000	5,042,041	89·02	3½	4	1	3
1886	40	5,500,000	5,247,692	91·67	3½	3	18	4
1888	30	3,500,000	†3,500,000	†99·92	3½	†3	10	0

* Interminable. † Approximate.

Nominal rates of interest.

The nominal rate of interest paid on the loans of the Colony was 5 per cent. until 1872, and the net amount received per cent. after deducting all charges, varied from 84·32, in 1867, to 103·90, in 1872; the rate of interest in the former case being £6 2s. 1d. per cent., and in the latter £4 15s. 2d. In 1873, the value of New South Wales 5 per cent. loans having risen considerably above par, the new loans were floated at 4 per cent. The highest price obtained for a 4 per cent. loan was £102 4s. 7d. per cent. net, after all charges had been paid, being that received for the loan of 1881.

The net interest on this loan amounted to £3 17s. 5d. per cent., the lowest rate at which money was borrowed by the Colony until its last loan was floated. In 1884 the nominal rate of interest was fixed at 3½ per cent., at which rate £20,000,000 has been raised. The loan placed on the market in April, 1888, was the most successful yet floated, the average rate per £100, after all expenses are paid, is expected to be a few pence below par.

New South Wales loans compared with those of other colonies.

The position of New South Wales in regard to its loans is as high as that of any other colony of the group, as will be seen from the following statement of the loans raised by the various colonies of Australasia during the years 1886 and 1887.

Australasian Loans offered in London during 1886–8.

Colony.	When offered.	Amount issued.	Official minimum.	Average price obtained.	Interest.	
					Nominal.	Actual.*
	1888	£		£ s. d.		
New South Wales	April...	3,500,000	102	103 12 2	3½	3·50
	1887					
Victoria	Jan.	3,000,000	102	102 19 4	4	3·94
Queensland	Feb.	2,500,000	100	100 0 10	4	4·06
South Australia ...	May....	850,000	101	103 2 6	4	4·00
	1886					
New Zealand	Oct.	1,567,800	97	97 0 0	4	4·32
Tasmania...........	July. ...	1,000,000	99	99 17 11	4	4·14

* All charges allowed for.

Price of loans indicative of financial position.

In the case of the colonies of New South Wales and Victoria the figures may be taken as exact; as regards the other colonies the actual interest paid is only approximate. Nevertheless the respective positions of the colonies in the money markets of the world will practically be that given in the above table. As far as New South Wales is concerned this is especially gratifying, when it is borne in mind that the Colony was compelled to go to the London market to borrow £20,000,000 within a period of three and a half years. The selling price cf the last loan is not perhaps the most exact test which may be applied to ascertain the credit of a country in the London markets. There are many causes which may combine to influence adversely the price obtained by tender, and it will be evident that in some of the instances given in the foregoing table, the selling price of loans was influenced by circumstances entirely apart from the credit of the colonies concerned. A truer gauge of credit will be found in the selling price and interest yielded to investors by representative stock at a given date. The following table, compiled from data given by the *Economist*, shows the interest returned by the stock of different colonies in June, 1888, due allowance being made in each case for redemption and other conditions affecting the price. Similar figures for the same month of 1868 and 1878 have been added :—

Selling price of Australian stock

Country.	1868.	1878.	1888.
	£ s. d.	£ s. d.	£ s. d.
Canada	5 12 6	4 9 0	3 4 0
New South Wales	5 0 0	3 16 3	3 6 9
Victoria	4 17 6	4 2 6	3 7 9
New Zealand	5 1 3	4 15 0	4 2 6
Queensland	5 6 3	4 5 0	3 14 6
South Australia	5 2 6	4 2 6	3 12 0
Tasmania	5 8 9	4 12 6	3 17 6
Cape of Good Hope	5 1 3	4 11 3	3 14 6
Natal	5 11 3	4 11 3	3 17 0
Mauritius	5 5 0	4 8 9	3 14 6
India	3 13 9	3 10 6	3 6 0

Improvement in value of stock.

The improvement in the credit of all the colonies is obvious, and at the rates given New South Wales could borrow £100 to-day at the same cost as £66 could be obtained twenty years previously. In June, 1888, British consols were selling at a rate which would yield £2 12s. 6d. per cent. interest; Canadian and Indian stock were also selling at better, if only slightly better, rates than New South Wales. This is certainly anomalous, as there is nothing in the history of these countries, or in the nature of their resources, to warrant even the slight preference shown to their stock above that of New South Wales or Victoria.

Inscribed Stock Act of 1883.

The old method of raising loans was superseded by the Inscribed Stock Act of 1883. Under the Act in question, the loans of the Colony are negotiated by the Bank of England; and the expenses of the last three loans are shown in the accompanying table.

Sales of Inscribed Stock negotiated in London by the Bank of England.

Amount of principal.	Currency, in years.	Date from which interest accrued.	Gross proceeds.	Average rate per cent. at which sold.	Charges.						Net proceeds.
					Brokers' commission.	Bank commission.	Discount on balance of scrip, paid up in full.	Stamp duty.	Petty expenses.	Total.	
£			£	£ s. d.	£	£	£	£	£	£	£
5,500,000	40	Oct. 1884	5,152,386	93 13 7	13,730	27,500	9,573	34,375	559	85,737	5,066,649
5,500,000	40	Oct. 1885	5,042,041	91 13 5	13,656	27,500	18,391	34,375	780	94,702	4,947,339
5,500,000	40	July 1886	5,247,692	95 8 3	13,713	27,500	14,443	34,375	768	90,799	5,156,893
3,500,000	30	Apl. 1888	.. ..	103 12 2	...	...	...	...	...	...	*3,500,000

* Approximate.

Relation between loans and imports and exports.

The charges incidental to the floating of the last loan have not yet been published, but for the others given, they amounted to 1·56, 1·72, and 1·65 per cent. respectively upon the capital value, but on the gross amount raised the percentage for each loan was 1·69, 1·91, and 1·76.

The loans raised in England do not come to the Colony as coin, but as merchandise, and from the greater portion of the excess of imports over exports, which is so marked a feature in the trade of these colonies. The following table shows the trade of the Colony for eighteen years, and the increase in the amount of the public debt during each year. Making allowance for the imperfection of the trade returns, it is evident how close the connection is between the loan expenditure and the excess, or otherwise, of the imports.

Imports, Exports, and Expenditure from Loans.

Year.	Imports.	Exports.	Excess of imports.	Excess of exports.	Loans Expenditure
	£	£	£	£	£
1869	8,392,753	9,933,442	....	1,540,689	982,000
1870	7,757,281	7,990,038	....	232,757	135,100
1871	10,933,508	11,259,909	....	326,401	933,200
1872	9,567,843	10,476,654	....	908,811	158,900
1873	10,959,864	12,618,755	....	1,658,891	69,185
1874	11,645,420	12,398,518	....	753,098	*326,044
1875	13,735,133	13,797,397	....	62,264	954,266
1876	13,800,805	13,061,412	739,393	....	288,882
1877	14,852,778	13,457,900	1,394,878	....	995,454
1878	15,104,645	13,134,405	1,970,240	....	816,317
1879	14,503,826	13,131,931	1,371,895	....	1,271,705
1880	14,176,063	15,682,802	....	1,506,739	1,668,619
1881	17,587,012	16,307,805	1,279,207	....	2,397,368
1882	21,467,899	17,677,355	3,790,544	....	2,832,759
1883	21,522,841	20,262,273	1,260,568	....	3,265,711
1884	23,160,916	18,577,290	4,583,626	....	3,674,707
1885	23,737,461	16,750,107	6,987,354	....	3,896,145
1886	20,973,548	15,556,213	5,417,335	....	3,766,356
1887	18,806,236	18,496,917	309,319	....	2,136,471

* Reduction.

Net amount of British money invested 1869-86.

The increase in the public debt during the period covered by the foregoing table, but not including the unexpended balance at the close of 1887, was £29,917,101. The payments on account of interest on loans, however, amounted to about £13,570,974, leaving the net amount of British money imported into New South Wales by the Government as about £16,346,127. The excess of imports during the same period, as shown above, was £22,114,709, or £5,768,582 more than the net amount of the proceeds of loans which reached New South Wales. This difference is spread over nineteen years, and equals only about £300,000 per annum.

As money brought here, either for investment, or earned by New South Wales investments outside the Colony, shows in the imports, and, as on the other hand, the earnings of foreign investments in the Colony, and the expenditure of colonists living abroad, appear in the exports, it would seem that the gains and losses of the Colony from these sources practically balance one another. If such be the case, it is evident that a stoppage of the flow of loan money to the Colony must be attended by an excess of exports, as was experienced during some of the years of the series shown in the foregoing table.

PUBLIC WEALTH.

Valuation of public and private wealth.

At the beginning of the year 1888, the estimated value of the public and private wealth of the Colony was £573,730,000, or about £550 per head of population. The public estate is valued at £183,200,000, or about £176 per head, while the personal and private wealth of the Colony amounts to £390,530,000, or £374 per head. The public wealth of New South Wales consists of railways, telegraphs, public works, unsold lands, the latter mostly leased to pastoralists, and yielding revenue in the shape of rent. The value of each class in 1887, was—

	£
Railways, tramways, telegraphs, and other revenue yielding works	47,800,000
Public works and buildings, not yielding revenue, or only indirectly	16,200,000
Unsold Crown lands, and balances due on lands sold conditionally	114,033,000
Total value of public property or estate	£178,033,000
Municipal Property—Roads, buildings, and other works constructed by Municipalities	5,167,000
Total public wealth	£183,200,000

Estimated value of public works.

The present value of the Government railways and tramways of the Colony has been taken at the moderate estimate of

£41,950,000, the sum of £33,556,000 having already been expended on their construction at the close of 1887. The balance of the amount represents the value of Crown lands used for railway purposes, and not specially paid for, and the increased value of railway property during the thirty-two years which elapsed since the lines were first opened for traffic. The present value of public roads and bridges formed out of general revenue has been taken at £7,800,000, which represents a life of ten years only,—the annual expenditure on roads being nearly £750,000. Harbour works, including wharves and dredging plant, are valued at £1,670,000, and public buildings and other works constructed out of revenue represent a total of £2,850,000. The remaining sum required to make up the total of £64,000,000 given above, viz., £9,000,000 represents the present value of telegraphs, water works, bridges, sewerage, and other public works, the cost of which was defrayed out of loans.

Estimated value of the public estate.

The value of the public estate appears in the estimate given above as £114,033,000. Of this sum £12,178,000 represents the amount due to the Crown by conditional purchasers, while the remainder, being a little more than £101,850,000, is the value of the unsold estate. The total area unalienated at the commencement of the year 1888 was 153,782,777 acres, and of this nearly 35,000,000 had been reserved from sale during former years. Much of this latter area comprises some of the best land in New South Wales, of which there is very little that would realize less than £1 per acre, while a large portion is estimated to be worth more than twice that sum. The value set down for the unsold Crown lands is therefore by no means extravagant.

Estimated value of municipal works.

The value of municipal works is £5,167,000, thus, with the sums already given, making the total value of public and municipal property slightly over £183,000,000. Against this, however, must be set the public debt of the Colony, amounting to £40,995,349, or 22·4 per cent. of the total, thus leaving a surplus of £142,000,000 on the public estate alone.

PRIVATE WEALTH.

Private property in the Colony is estimated at the value of £390,530,000, comprised as follows:—

Land, houses, and permanent improvements within Municipalities	£116,383,674
Land, houses, and permanent improvements outside Municipalities, including improvements to Crown lands	187,100,000
Stocks and crops	31,735,000
Personal property, including household furniture	18,750,000
Machinery and implements of trade	6,500,000
Coin and bullion	8,854,976
Merchandise	18,651,000
Shipping owned in the Colony	2,555,350
	£390,530,000

Large amount of private wealth.

The total given above is certainly very large, but may be roughly verified by taking the amount of money left by persons dying during the past five years. Thus the total sum value of property claimed under probate and letters of administration during this period was £22,447,076. The number of deaths during the same period was 69,786, so that the average value of the property left by each person dying was about £322. It is well known that property for probate purposes is not estimated at its full value, assuming the real value is 10 per cent. above the probate, the total wealth of the Colony, as estimated by this means, would be £379,193,000, which approaches very close to the sum above given.

Lands and buildings within municipal boundaries.

The value of lands and buildings assessed for municipal purposes is £105,873,485, the annual value being £6,528,521, or 6·12 per cent. on the nominal capital value. It is well known, however, that the capital value of unimproved lands is generally greatly understated for municipal purposes, and the annual value per cent. of all property is, in reality, not so high as stated above. A fair estimate of the ratable value of property within municipal boundaries has been made and substituted in the above table, in lieu of the amount returned by the municipal authorities.

Land outside municipalities.

The area of land outside municipalities, which is in private hands, amounts to about 40,000,000 acres. On this area, the number of houses was, in 1887, about 97,000, valued at £11,000,000, while the value of the land itself was £108,600,000, being at the rate of little less than £2 15s. per acre. Much indeed of this land is scarcely worth, in the open market, half the sum named; on the other hand, the greater portion is worth considerably more, while the mineral lands alone are worth, at a moderate computation, £15,000,000. The permanent improvements effected in the purchased lands of the Colony and on the holdings of pastoral tenants have been valued by the Inspector of Stock at £56,500,000. For the purpose of this estimate, the value has been taken at £42,500,000, or 75 per cent. of Mr. Bruce's figures. The determination of an exact value for any of the items which comprise the estimate just given is, of course, impossible; but it is believed that the sums named fairly represent the value of the property against which they stand.

Personal property and furniture.

The value of personal property and furniture was assumed to be equal to one-half the value of the house property. The estimate may, perhaps, be considered too low when it is borne in mind that it is usual in England to estimate the value of furniture alone at half the value of the houses furnished.

Merchandise.

Merchandise represents the value of the goods and stocks of all kinds, whether in store or shops, or at the place of production, and averages in value half the imports and exports taken together.

The following is a summary of the total value as well as of the values per head of population:—

	Total. £	Value per head. £
Public wealth	183,200,000	176
Private wealth	390,530,000	374
Total wealth	573,730,000	550

Increase in value of estates of deceased persons.

The value of the estates of persons whose wills were proved in the Colony, or for which letters of administration were granted, has increased very rapidly; but, unfortunately, the records are not perfect prior to the year 1881.

Value of Property for which Probate or Letters of Administration were granted.

Year.	No. of Probates and administrations—will annexed.	Amount worn to.	No. of Letters of Administration.	Amount sworn to.	Total No. of Estates.	Total Amount sworn to.
		£		£		£
1881	671	2,011,305	526	307,818	1,197	2,319,123
1882	810	3,586,554	589	581,528	1,399	4,168,082
1883	862	3,528,602	613	588,029	1,475	4,116,631
1884	933	3,642,709	648	605,543	1,581	4,248,252
1885	961	3,721,805	659	601,542	1,620	4,323,347
1886	1,026	4,726,918	706	768,628	1,732	5,495,546
1887	961	3,621,874	665	641,426	1,626	4,263,300

Average value of estates.

Two things are plainly noticeable from this table, especially if it be viewed in connection with the subsequent one, viz.,—that the proportionate number of persons leaving property shows a general tendency to increase faster than the population, whilst the average value of estates is also increasing. As regards the latter, the figures are somewhat irregular owing to the occurrence at irregular intervals of the deaths of very wealthy men, which amongst so comparatively few deaths, considerably affect the average. Such was the case during 1886, when one will alone was sworn at £937,000.

Value of Property left by Persons Deceased.

Year.	Number of Wills proved or administrations granted.	Number of deaths.	Percentage of Persons who left property.	Average value of Estates left by persons with property.
				£
1866	426	7,361	5·08	1,487
1867	387	8,631	4·48	1,782
1868	437	7,225	6·05	1,412
1869	462	6,691	6·90	1,513
1870	428	6,558	6·53	1,451
1871	475	6,407	7·41	1,283
1872	522	7,468	6·99	1,280
1873	637	7,611	8·37	1,398
1874	685	8,652	7·92	1,776
1875	908	10,771	8·43	*
1876	926	11,193	8·27	*
1877	1,001	9,869	10·14	*
1878	1,087	10,763	10·10	*
1879	1,051	10,200	10·30	*
1880	1,173	11,231	10·44	*
1881	1,197	11,536	10·38	1,938
1882	1,399	12,816	10·92	2,979
1883	1,475	12,249	12·04	2,791
1884	1,581	12,220	12·94	2,687
1885	1,620	15,282	10·60	2,669
1886	1,732	14,587	11·87	3,173
1887	1,626	13,448	12·09	2,683

* Cannot be accurately given. Probate duties not in force.

Probates an index of wealth.

As already pointed out, the amount of property sworn to for the purpose of obtaining letters of administration or probate is not an index to the total wealth of the community, except in those years when stamp duties were levied. On the 20th June, 1865, these duties were imposed, and remained in force until the end of 1874; they remained in abeyance until June 25th, 1880, when they were again imposed. Sufficient time has, however, elapsed between the date first mentioned and the close of 1887 to enable a comparative view to be taken of the progress of the Colony. During the five years, 1868 to 1872, there died 34,349 persons, and the property left by them amounted to £3,213,851, so that the average per head was only £94, and the total private wealth averaged £48,641,000. For the period 1883 to 1887 the number of deaths occurring was 69,786, and the property left by those who died was valued at £22,447,076, giving an average of £322 per head, and making the total wealth for the whole population £276,193,000 for the five years named. The increase of wealth, as shown by the returns quoted, amounted to £227,552,000 during the fifteen years which elapsed from 1868–72 to 1883–87, a rate equivalent to 12·12 per cent. per annum, while the population advanced only at the rate of 3·68 per cent. Such progress in the accumulation of wealth is beyond all precedent, and is so extraordinary as to raise suspicion as to the correctness of the figures upon which the deduction is built. The figures, however, relating to the value of property left by persons who died may be taken as correct, and the somewhat similar progress experienced in Victoria would warrant the contention that the conclusion as to the rate at which wealth has accumulated is also correct; nevertheless the figures are given with diffidence and should be used with caution. For purposes of comparison with the neighbouring colony, the period from 1872 to 1886 has been selected for both colonies. In regard to New South Wales, the defect which has already been adverted to mars the full value of the table; from 1875 to 1880 probate duties were not in force, and it is surmised that in some, at least, of the years belonging to this period the personal estates only of persons who died were valued for purposes of probate. However, this may be; the table will illustrate what is intended, viz., the vast growth of the wealth both of the community as a whole and of the individuals of which it is composed.

Extraordinary increase of wealth.

New South Wales and Victoria compared.

Years.	New South Wales.			Victoria.		
	Average Amount left by each person dying.	Average Number of persons living.	Total Wealth of Population.	Average Amount left by each person dying.	Average Number of persons living.	Total Wealth of Population.
	£		£	£		£
1872–76	134	574,495	77,000,000	185	776,052	144,000,000
1877–81	184	709,127	130,000,000	223	836,677	187,000,000
1882–86	323	906,483	293,000,000	305	936,157	286,000,000

INCOME.

Total income.

The income of persons living or holding property in New South Wales is estimated to be £54,275,000, or at the rate of £52 per head. The income is derived from the following sources:—

	£
Pastoral, agricultural, and mining (including wages)	17,850,000
Manufacturing (including wages)	5,776,000
Trade and shipping (including wages)	3,168,000
Other mechanical and labouring pursuits (including railway workmen, profits of employers, &c.)	8,409,000
Income from trade and capital not directly employed in foregoing pursuits	4,278,000
Civil service and Government	1,405,000
Professional incomes	2,760,000
Personal attendance, food distribution, and other pursuits not enumerated above (not including earnings of females)	2,018,000
Females earning wages	2,711,000
House rent and rent of land not employed in agriculture, pastoral, or mining pursuits	5,900,000
	£54,275,000

Productive pursuits.

The earnings derived from what are usually termed productive pursuits—agriculture, mining, grazing, and manufactures—amount to £23,626,000, or 43·5 per cent. of the total earnings of the community. The income of the wage-earners, excluding females and those not actually engaged in manual labour, amounts to £22,947,000, distributed approximately as follows:—

Income of Wage-earners.	£
Pastoral and farming	5,931,000
Mining	2,208,000
Manufacturing	4,232,000
Transportation, Railway employés, &c.	1,215,000
Personal attendance and food distribution	1,680,000
Mechanics and labourers	6,650,000
Maritime pursuits, &c.	693,000
Others	338,000
	£22,947,000

Average earnings of workers.

The number of male workers in the Colony is 337,000 and the female 68,380, so that the average income of all ranks—excluding non-workers—is £153 for each male and £39 for each female worker. In the absence of an income-tax, the figures as regards income must be taken as approximative; but there is every reason to believe they approach very near the truth. Compared with the older countries the income stated in the foregoing table to be enjoyed by persons living in New South Wales will appear very considerable, but not more so than the high rate of wages and the natural wealth of the Colony would lead one to expect. The following table, extracted from Mulhall's Dictionary of Statistics, gives the rate for the principal countries of Europe and for the United States and Canada:—

Income per Head of Population in Various Countries.

Country.	Total Income.	Income per head.
	Million £	£
United Kingdom	1,247	35·0
England	1,048	41·0
Scotland	121	32·0
Ireland	78	16·0
France	965	25·7
Germany	850	18·7
Russia	848	9·9
Austria	602	16·3
Italy	345	12·0
Spain	218	13·8
Portugal	61	13·6
Belgium	120	22·1
Holland	104	26·0
Denmark	47	23·2
Sweden and Norway	104	16·2
Switzerland	44	16·0
Greece	23	11·8
United States	1,420	27·2
Canada	118	26·9
Ne South Wales	54	52·0

CURRENCY.

Weight of gold minted.

Gold coins are the only ones struck at the Sydney Mint, though silver and bronze of English coinage are also issued. The weight of gold sent for coinage from the first opening of the Mint on the 14th May, 1855, to the end of 1887, was 15,603,592 oz., valued at £59,053,449; of this quantity New South Wales produced only 7,099,404 oz., of the value of £27,091,984, the amount from each c ony being—

Bronze and silver coin issued by Mint.

Bronze coin was first issued from the Mint in 1868, and silver coin in 1879. The respective value of each to the close of the year 1887 being :—Bronze, £29,370; silver, £327,515. The amount of each particular currency issued in each year is shown in the following table:—

Sydney Mint—Silver and Bronze coin issued.

Year.	Silver Coin issued.						Bronze Coin issued.		
	Half-crowns.	Florins.	Shillings.	Six-pences.	Three-pences.	Total.	Pence.	Half-pence.	Total.
	£	£	£	£	£	£	£	£	£
1868 to 1875	......	......	......	......	......	......	12,620	2,565	15,185
1876	......	......	......	......	......	......	815	230	1,045
1877	......	......	......	......	......	......	565	205	770
1878	......	......	......	......	......	......	560	175	735
1879	17,000	15,972	12,000	3,681	4,647	53,300	680	230	910
1880	11,300	6,428	11,900	2,219	3,153	35,000	450	95	545
1881	14,600	10,600	12,000	3,600	2,700	43,500	300	410	710
1882	12,100	11,300	13,800	1,300	4,000	42,500	1,475	475	1,950
1883	11,200	9,300	13,000	2,400	3,700	39,600	1,015	360	1,375
1884	15,000	11,800	11,300	4,300	3,800	46.200	1,510	255	1,765
1885	11,100	7,200	12,450	5,550	7,600	43,900	2,040	445	2,485
1886	2,600	200	5,500	1,450	7,650	17,400	870	225	1,095
1887	2,375	700	1,850	500	690	6,115	680	120	800
Total... £	97,275*	73,500†	93,800	25,000	37,940	327,515	23,580	5,790	29,370

* Includes £235 in Crowns. † Includes £350 double florins.

Silver coin withdrawn.

The amount of silver coin withdrawn from circulation from 1873, when the Mint first received worn coin, until 1887, was of the nominal value of £108,673. The actual weight after smelting was 343,569 oz., and the corresponding weight of new coinage would be 395,175 oz. The loss while the coins were in circulation was therefore 51,606 oz., the average loss being 13·06 per cent.

Coin held by banks.

Both the amount of coin held by the banks, and in circulation, was larger during 1887 than in any previous year, though, as ared with the population, the total has not varied greatly for ears, as will be seen from the following table.

Coin in Circulation and in Banks, with Average per Head of Population at close of year.

Year.	Coin in Banks.	Average.	Coin in Private Hands.	Average.	Total in Banks and in Private Hands.	Average.
	£	£ s. d.	£	£ s. d.	£	£ s. d.
1870	1,352,842	2 15 2	1,960,344	4 0 0	3,313,186	6 15 2
1871	2,413,144	4 15 0	2,004,036	3 18 10	4,417,180	8 13 10
1872	2,693,154	5 2 4	2,075,546	3 18 7	4,768,700	9 0 11
1873	1,970,075	3 12 5	2,191,794	4 0 6	4,161,869	7 12 11
1874	2,283,353	4 1 0	2,279,316	4 0 10	4,562,669	8 1 10
1875	2,525,698	4 6 5	2,179,326	3 14 7	4,705,024	8 1 0
1876	2,732,104	4 10 5	2,191,945	3 12 7	4,924,049	8 3 0
1877	2,435,126	3 17 5	2,394,750	3 16 2	4,829,876	7 13 7
1878	2,227,115	3 1 10	2,366,831	3 12 0	4,593,946	6 13 10
1879	3,102,345	4 9 10	2,417,377	3 10 0	5,519,722	7 19 10
1880	3,637,568	5 0 3	2,605,370	3 11 9	6,242,938	8 12 0
1881	2,885,890	3 16 0	3,104,397	4 1 7	5,990,287	7 17 7
1882	2,672,799	3 7 2	3,128,415	3 18 9	5,801,214	7 5 11
1883	2,861,980	3 12 7	2,989,137	3 11 7	5,851,117	7 4 2
1884	3,863,873	4 7 10	2,988,744	3 7 9	6,852,617	7 15 7
1885	4,069,840	4 7 5	3,250,082	3 9 9	7,319,922	7 17 2
1886	4,439,742	4 8 7	3,361,904	3 7 1	7,801,646	7 15 8
1887	5,108,996	4 18 0	3,745,980	3 11 10	8,854,976	8 9 10

Stock of gold and silver unchanged.

Though the stock of gold and silver, as compared with the population, showed an increase during 1887, there is evidently a tendency to reduce the quantity of coin required for the business of the country. As compared with England, the amount of coin in use per head seems very considerable, being nearly twice as great here as in that country, though the methods of transacting business are not essentially different. The spread of the banking system is generally attended with a diminution of the amount of coin required for the ordinary transactions of business, and the existence of a larger supply of coin per head would, as a rule, argue the lack of banking facilities. In New South Wales the banking system is very widely developed, and the difference alluded to arises from the greater diffusion of wealth amongst the mass of the people in this and the other colonies than is the case in England or, perhaps, in any other country.

BANKING.

Capital and profits of banks.

The nominal capital of banks trading in New South Wales is £13,150,320, but much of this capital is not exclusively used in the Colony. It has been found impossible to determine the proportion of the whole capital required for the business of the Colony; the figures relating to capital in the ensuing tables, therefore, refer to the nominal capital paid up. The income derived by the banks during 1886, amounted to £1,581,021, or at an average rate of nearly 12 per cent. per annum, the rates varying from 6 to 25 per cent. The capital and profits of banks operating in this Colony during 1887, will be found below:—

Banks operating in New South Wales.	Capital paid up.	Rate per Annum of last Dividend.	Amount of Dividend for the year.	Amount of Reserved Profits.
	£	⅌ cent.	£	£
New South Wales	1,250,000	17½	215,355	900,000
Commercial	600,000	25	150,000	745,358
Australasia	1,600,000	13½	228,000	920,903
Union of Australia	1,500,000	12	195,000	1,084,828
Australian Joint Stock	500,000	12½	62,500	297,504
London Chartered of Australia	1,000,000	7	70,000	204,310
English, Scottish, and Australian Chartered	720,000	10	72,000	220,000
Commercial of Australia	1,000,000	14	106,000	595,608
City	279,120	12½	30,000	157,227
Mercantile of Sydney	300,000	9	27,000	116,123
Federal of Australia	400,000	9	34,000	71,907
Queensland National	652,300	15	97,846	325,746
New Zealand	1,000,000	12½*	62,500	506,106
National of Australasia	1,000,000	15	150,000	680,898
New Oriental	548,900	6	48,000	116,002
South Australia	800,000	6	32,820	125,286
Totals	13,150,320	......	1,581,021	7,067,806

---

* For the half-year only. No dividend has been declared for the second half-year.

Restriction of note circulation.

Banks trading in the Colony are allowed a note circulation equal to the amount of their paid-up capital and the coin and bullion in store. In the years covered by the tables given below it will be seen that the banks have in no instance availed themselves, to the full extent, of their privilege in this regard. The magnitude of the operations of the banks may best be gathered from the following table, especially from the column showing the value of notes and bills discounted, and debts due :—

Average Assets of Banks trading in New South Wales.

Year.	Coin.	Bullion.	Notes and Bills of other Banks.	Balances due from other Banks.	Notes and Bills discounted and all other debts due to the Banks.	Landed Property.	Total Assets.
	£	£	£	£	£	£	£
1871	1,867,278	184,553	34,364	1,299,636	7,593,538	301,157	11,280,526
1872	2,859,325	126,201	35,875	1,772,132	7,993,223	307,431	13,094,187
1873	1,972,092	76,483	34,069	2,767,554	9,116,831	296,545	14,263,574
1874	2,322,269	192,254	42,247	3,331,488	10,074,712	313,986	16,276,956
1875	2,476,456	112,319	51,461	3,581,149	11,770,185	326,741	18,318,311
1876	2,828,503	87,063	63,247	3,854,768	12,801,716	347,291	19,982,588
1877	2,586,053	84,415	62,324	3,158,520	15,354,507	385,875	21,631,694
1878	2,262,526	86,194	64,532	3,252,519	16,762,111	425,478	22,853,362
1879	2,488,175	83,824	50,614	3,527,303	17,098,052	486,869	23,734,837
1880	3,373,618	73,651	55,453	3,712,664	16,661,815	521,612	24,398,813
1881	3,594,914	80,068	73,285	3,110,110	19,038,386	585,224	26,481,987
1882	3,022,159	74,308	96,462	3,251,905	23,517,046	662,851	30,624,731
1883	2,798,536	80,018	113,677	2,944,965	25,894,669	748,140	32,580,005
1884	3,559,859	61,223	117,983	3,225,096	27,479,142	818,043	35,261,346
1885	4,171,043	62,066	131,448	1,936,042	30,556,628	958,349	37,815,576
1886	3,958,238	66,243	125,073	2,020,946	32,527,431	1,107,377	39,805,308
1887	4,870,315	65,187	116,233	2,680,343	33,352,179	1,184,463	42,268,720

Rapid increase of assets of banks.

During the sixteen years covered by the above table, the population of the Colony has doubled. In the same period the amount of notes and bills discounted, and other debts due to the banks have increased four and a half times, while the total assets have increased nearly fourfold. This certainly denotes a very wide extension of the banking system, and a correspondingly large increase in the amount of wealth accumulating during the interval.

Extent of operations disclosed by liabilities.

The amount of the liabilities of the banks is shown in the following table. The circulation of notes increased very rapidly during the earlier years; but since 1881 the amount of paper in circulation has practically remained the same. The magnitude of the banking operations of the country may be gathered from this table equally with the preceding one; the rapid increase in the amounts of deposits, especially those bearing interest, is perhaps its most remarkable feature.

Average Liabilities of Banks trading in New South Wales.

Year.	Notes in Circulation.	Bills in Circulation.	Balances due to other Banks.	Deposits not bearing Interest.	Deposits bearing Interest.	Total Deposits.	Total Liabilities.
	£	£	£	£	£	£	£
1871	694,344	42,816	171,896	....	....	6,662,856	7,571,912
1872	789,544	42,916	191,325	....	....	8,653,481	9,672,266
1873	1,005,639	34,289	191,794	....	....	11,369,184	12,600,906
1874	920,620	32,067	243,535	....	....	9,760,661	10,956,813
1875	1,080,088	34,811	251,727	....	....	13,132,772	14,499,398
1876	1,093,862	33,712	205,976	5,146,536	9,563,608	14,710,144	16,043,694
1877	1,129,279	37,618	252,172	5,061,231	10,984,264	16,045,495	17,464,564
1878	1,167,519	38,621	228,804	4,933,643	11,678,843	16,612,486	18,047,430
1879	1,123,123	41,703	152,422	4,898,724	12,352,454	17,251,178	18,568,426
1880	1,173,663	45,229	222,686	5,683,870	12,209,781	17,893,651	19,335,229
1881	1,390,376	52,687	393,848	7,719,236	11,869,979	19,589,215	21,426,126
1882	1,614,191	57,487	639,192	8,310,054	13,772,826	22,082,880	24,393,750
1883	1,677,146	64,596	625,124	7,158,975	16,302,407	23,461,382	25,828,248
1884	1,644,469	60,443	583,020	7,453,914	17,738,445	25,192,359	27,480,291
1885	1,714,095	55,300	868,543	8,819,979	18,387,705	27,207,684	29,845,622
1886	1,621,090	60,827	1,366,202	8,355,255	18,974,984	27,330,239	30,378,358
1887	1,526,096	64,146	1,208,727	8,870,037	20,162,493	29,032,530	31,831,499

Surplus of assets.

The surplus of assets over liabilities, as disclosed by the foregoing tables, will best be seen from the following summary, the increase during the sixteen years embraced therein being from £3,708,614 to £10,437,220.

Surplus of Assets of Banks over Liabilities.

Year.	Assets.	Liabilities.	Surplus Assets.
	£	£	£
1871	11,280,526	7,571,912	3,708,614
1872	13,094,187	9,672,266	3,421,922
1873	14,263,574	12,600,906	1,662,668
1874	16,276,956	10,956,813	5,320,143
1875	18,318,311	14,499,398	3,818,913
1876	19,982,588	16,043,694	3,938,894
1877	21,631,694	17,464,564	4,167,130
1878	22,853,362	18,047,430	4,805,932
1879	23,734,837	18,568,426	5,100,411
1880	24,398,813	19,335,229	5,063,584
1881	26,481,987	21,426,126	5,055,861
1882	30,624,731	24,393,750	6,230,981
1883	32,580,005	25,828,248	6,751,757
1884	35,261,346	27,480,291	7,781,055
1885	37,815,576	29,845,622	7,969,954
1886	39,805,308	30,378,358	9,426,950
1887	42,268,702	31,831,499	10,437,221

Bank returns no gauge of stability.

The returns for any individual colony do not indicate the stability or otherwise of the banks, as most institutions have branches in the adjoining colonies and in London. A bank may show, as did the late Oriental Banking Company, a large surplus of assets over liabilities in New South Wales and yet be on the brink of insolvency. In order, therefore, to show the resources of the various companies having branches in this Colony, the following table has been compiled from a paper published by Mr. J. T. Walker. The statement refers to the position of the banks on the 30th November, 1887.

Proprietary Resources of New South Wales Banks of Issue.

Name of Bank.	Aggregate liabilities to the public.	Paid-up capital and reserve fund.		Subscribed capital and reserve fund.		Aggregate of subscribed capital, reserve fund, and reserve liability.	
		Total.	Proportion to liabilities per cent.	Total.	Proportion to liabilities per cent.	Total.	Proportion to liabilities per cent.
	£	£		£		£	
Australian Joint Stock	6,876,338	790,000	11	852,500	12	1,477,500	21
Australasia	14,472,222	2,400,000	16	2,400,000	16	4,000,000	27
New South Wales	17,582,378	2,150,000	12	2,150,000	12	3,400,000	19
New Zealand	13,722,149	1,500,000	10	1,500,000	10	2,500,000	18
South Australia (Limited)	3,179,898	900,000	28	1,700,000	53	1,700,000	53
City	1,705,163	429,560	25	589,560	34	1,089,560	63
Commercial of Australia (Limited)	7,047,159	1,570,000	22	3,070,000	43	3,070,000	43
Commercial	9,678,454	1,325,000	13	1,325,000	13	1,925,000	19
English, Scottish, and Australian Chartered	5,741,960	940,000	16	940,000	16	1,660,000	28
Federal of Australia	1,472,753	450,000	30	850,000	57	850,000	57
London Chartered of Australia	4,699,648	1,140,000	24	1,140,000	24	2,140,000	45
Mercantile of Sydney	2,303,942	465,000	20	465,000	20	765,000	33
National of Australasia	8,122,587	1,670,000	20	1,924,000	23	3,170,000	39
Queensland National (Limited)	7,860,650	967,300	12	1,619,600	20	1,619,600	20
Union of Australia (Limited)	13,690,420	2,480,000	18	5,480,000	40	5,480,000	40
Total £	118,155,721	19,176,860	16	26,005,660	22	34,846,660	29

Large sums deposited with Building Societies.

In the next table is given the amount of deposits during each year, from 1871 to 1887, in the Chartered banks and the Government Savings and Post Office banks. The increase has been singularly rapid, not only absolutely, but also as compared with the increase in population. The whole of the deposit banks of the Colony are not included in this table. A very considerable sum is received by building and other societies which offer a larger interest than either the ordinary banks or the Government institutions. Part of this money appears in the deposits shown in the subsequent table, but the larger portion does not so appear. How much money is entrusted to building and investment societies is not accurately known, though it is probably not less than two millions sterling. The deposits increased during sixteen years from £7,989,801 to £32,929,756, or in all £24,939,955, the rate per head advancing from £15 8s. 7d. to £31 11s. 6d. The amount of money on deposit in banks of the Colony during last quarter of each year, 1871–87, with rate per head, was as follows :—

Money on Deposit in Banks in New South Wales.

Year.	Banks.	Savings Banks.	Post Office Banks.	Total.	Amount per head of Population.
	£	£	£	£	£ s. d.
1871	7,043,886	931,688	14,227	7,989,801	15 8 7
1872	9,273,087	1,028,738	80,688	10,382,513	19 7 11
1873	10,279,324	1,164,561	206,070	11,649,955	21 0 8
1874	11,884,958	1,275,902	303,113	13,463,973	23 8 4
1875	13,650,892	1,295,797	354,075	15,300,764	25 14 11
1876	14,859,505	1,303,813	400,120	16,563,438	26 19 4
1877	16,325,043	1,355,258	467,453	18,147,754	28 3 10
1878	16,722,453	1,333,017	480,025	18,535,495	28 11 8
1879	17,862,840	1,410,905	511,357	19,784,102	28 1 8
1880	17,883,024	1,489,360	586,496	19,958,880	26 18 0
1881	20,308,017	1,427,202	971,501	22,706,720	29 3 2
1882	22,544,549	1,856,641	1,158,454	25,559,644	31 10 6
1883	23,739,134	1,822,319	1,183,519	26,744,972	31 3 7
1884	26,250,420	1,887,349	1,290,931	29,428,700	32 11 1
1885	26,709,386	2,016,656	1,471,894	30,197,936	31 10 6
1886	28,428,253	2,081,498	1,423,305	31,933,056	31 17 5
1887	29,253,863	2,174,439	1,501,454	32,929,756	31 11 6

The year 1887 was a very trying one in the Colony, which suffered not a little from the depression which seems to have very generally prevailed. The effect of this is visible in the deposits in the people's savings banks. The number of depositors at the close of the last two years and the amount to their credit was :—

Effect of depression on deposits.

People's Savings Banks.	1886.		1887.	
	Depositors.	Amount.	Depositors.	Amount.
		£		£
Savings banks	52,378	2,081,498	54,873	2,174,439
Post Office banks ...	59,566	1,422,305	64,002	1,501,454
Total	111,944	3,504,803	118,875	3,675,893

It will be seen that there has been an increase both in the number of accounts and in the amount of deposits. As regards the latter, the increase is more apparent than real, as in it is included the interest earned by the money remaining from 1886, or deposited during 1887.

Depositors and deposits increasing.

Interest is allowed in the Government Savings Bank at the rate of 4 per cent. for any period of a year. For sums which remained deposited during the whole year, the interest given during 1887 was 5 per cent. In the Post Office banks the rate allowed is 4 per cent. per annum.

Interest allowed in Savings Banks.

The prevailing depression elsewhere alluded to found expression in the unusually large number of insolvencies which occurred during 1887, as shown in the following table. The nominal deficiency shown by insolvents' schedules was not greater than in some previous years; but the estimate of liabilities and assets, particularly the latter, are to be accepted with caution. In addition to the estates of which the Insolvency Court took

Effect of depression on insolvency.

Private assignments.

cognisance of, there were private assignments during the year to the amount of £900,000 estimated liabilities.

Number of Insolvencies in New South Wales, and Amount of Liabilities, Assets, &c.

Year.	Number of Insolvents.			Amount of Liabilities as shown in the insolvents' schedules.	Amount of Assets, as shown in the insolvents' schedules.	Amount of Deficiency shown in the insolvents' estates.
	Voluntary.	Compulsory.	Total.			
				£	£	£
1876	461	41	502	492,847	169,603	323,243
1877	534	54	588	508,352	210,821	297,531
1878	652	64	716	664,736	350,176	314,560
1879	767	96	863	781,334	306,103	475,231
1880	784	50	834	479,864	292,233	187,631
1881	664	60	724	379,290	218,212	161,078
1882	686	48	734	307,084	167,876	139,208
1883	720	65	785	444,594	245,836	189,758
1884	856	62	918	836,165	580,194	255,970
1885	849	80	929	773,212	589,359	183,853
1886	1,116	105	1,221	989,262	723,127	256,135
1887	1,249	102	1,351	1,081,726	788,941	292,785

Money secured by lien on wool.

The amount of money advanced on the security of the wool clip and the live stock of the Colony is always very large. Such advances do not necessarily mean a scarcity of money on the part of the borrowers, as the system of liens and mortgages is part of the ordinary method of carrying on the trade of the country. Advances were, however, made more largely during the years of depression, which extended over the period from 1878 to 1882, as will be seen below.

Preferable Liens on Wool and Mortgages on Live Stock, registered in New South Wales.

Year.	Preferable Liens on Wool.			Mortgages on Live Stock.				
	No. of Liens.	No. of Sheep.	Amount of Liens.	No. of Mort-gages.	No. of Sheep.	No. of Horned Cattle.	No. of Horses.	Amount lent.
			£					£
1876	920	4,828,951	752,819	758	2,480,004	258,447	5,847	2,157,835
1877	994	4,386,378	627,779	1,994	2,565,962	185,796	6,726	2,004,363
1878	1,027	4,611,696	714,273	914	2,647,183	183,210	8,412	2,059,348
1879	1,246	6,602,742	1,005,118	925	3,538,161	128,685	9,564	2,268,850
1880	1,479	6,216,741	981,172	901	4,858,265	183,555	401	2,818,967
1881	1,609	5,709,061	904,012	1,275	5,982,994	215,564	9,646	4,623,915
1882	1,289	4,837,667	801,174	1,074	3,865,331	112,441	8,391	3,391,984
1883	1,301	6,349,801	1,026,574	1,077	3,601,890	131,068	7,389	2,486,407
1884	1,379	4,168,185	973,179	1,471	2,696,994	77,241	8,097	1,881,082
1885	1,236	5,263,407	1,327,214	1,431	4,730,233	117,241	10,764	2,962,471
1886	1,187	9,049,194	1,454,154	1,363	4,323,553	79,616	10,349	2,404,813
1887	1,285	9,296,975	1,685,655	1,563	3,954,286	79,312	11,464	2,054,785

When any sum has been secured, both by a lien on the wool and by a mortgage of the sheep, the amount is included under the head of mortgages only.

Discharges of advances.

The above table does not, however, give an exact statement of the case, as a large portion of the advances made were discharged, as will be seen in the following table :—

Discharges of Mortgages on Live Stock registered.

Year.	Number.	Amount.	Year.	Number.	Amount.
		£			£
1876	190	1,028,079	1882	258	1,900,443
1877	225	1,292,703	1883	126	600,426
1878	159	1,037,119	1884	306	3,801,352
1879	161	1,247,708	1885	208	1,173,673
1880	232	3,804,475	1886	150	849,742
1881	399	2,781,122	1887	210	1,073,674

Advances in growing crops.

Other advances on produce are also made, the principal being those on growing crops. Such advances do not reach large sums either individually or in their total. The amount of advances made on crops for eleven years was—

Liens on Growing Crops registered.

Year.	Number.	Amount.	Year.	Number.	Amount.
		£			£
1876	319	16,419	1882	854	40,379
1877	477	27,086	1883	814	50,789
1878	539	43,186	1884	888	54,057
1879	778	55,869	1885	857	71,153
1880	797	81,626	1886	989	70,212
1881	897	42,255	1887	949	67,379

Mortgages registered.

The transactions in regard to mortgages of land have increased very rapidly during the past eight years: the maximum was reached in 1885, when the amount of such transactions was not less than £11,360,108. Besides there were many mortgages not registered. The great increase shown in 1885 over any previous year is due to mortgages of country lands, on which a sum of £7,990,086 was advanced, an amount not only larger than that lent on country lands before or since, but larger than the whole sum advanced on mortgage on land throughout the Colony in any one year. The total amount of mortgages on land for 1887 was £5,869,302, a sum which, though large, is little more than half that registered two years previously.

Mortgages on Land registered.

Year.	No. of Mortgages.	Amount.	Year.	No. of Mortgages.	Amount.
		£			£
1876	2,126	1,402,848	1882	4,159	4,924,596
1877	1,758	1,308,775	1883	4,088	5,859,472
1878	2,440	1,981,481	1884	4,653	5,620,421
1879	2,809	2,461,964	1885	7,618	11,360,108
1880	2,995	4,048,952	1886	6,933	7,570,210
1881	4,505	5,268,449	1887	6,108	5,869,302

The amount of mortgages paid off has been uniformly less than of mortgages registered, as will be seen from the following figures:—

Mortgages discharged.

Mortgages on Land discharged.

Year.	Number.	Amount.
		£
1876	1,101	600,835
1877	1,902	1,123,139
1878	1,350	896,445
1879	1,235	868,524
1880	1,860	715,148
1881	2,386	1,926,357
1882	2,051	1,676,224
1883	1,388	1,433,912
1884	2,216	1,957,765
1885	3,473	2,239,075
1886	2,773	2,515,398
1887	3,067	2,909,932

The total amount of liens on wool registered during the twelve years from 1876 to 1887, as shown in the above tables, was £12,253,123; the mortgages on live stock amounted to £31,114,820, and on land, £57,676,578, in all, £101,044,521. During the same period the mortgages discharged were: liens on wool to the full amount in due course, mortgages on live stock, £20,590,516, and on land, £18,862,754, making a gross total of £51,706,393. The sums of money advanced on mortgages of various kinds over that paid off was therefore apparently £49,338,128 in twelve years. As regards the liens, such indebtedness does not exist, for the mortgages over stock and clip are for the most part terminated without being formally discharged. Even in the case of mortgages on real estate the amount outstanding does not represent money actually owing; in very many cases it simply represents the limits within which clients of banks and other loan institutions are entitled to draw, though many of these clients may be in credit while their property is mortgaged and unreleased. Making these allowances, the probable amount of private indebtedness on account of money advanced on mortgages of various kinds is about £22,500,000. The larger portion of this sum represents the engagements incurred by pastoral tenants for the improvement or security of their

Amount of private indebtedness.

estates, while a considerable part is due to the purchase of lands in the vicinity of Sydney on credit with payments in redemption extending over a number of years. The weight of this burthen of mortgage will have to be largely reduced before that elasticity will again be found in trade which was visible a few years ago.

Postal business, money orders.

The business transacted by the Postal Department in money orders has grown to very large dimensions, for while in 1876 there were issued 18 orders to every hundred persons in the community, in 1887 the number reached 35, the total value advancing from £465,771 to £1,131,884, while the value of orders paid rose from £421,162 to £1,010,297 during the same period. This increase is due mainly to the greater facilities now afforded for the transmission of money by this method, though it is also to some extent attributable to the more general appreciation of the money order system amongst the working classes of the community. The following is a statement of the business transacted since 1876:—

Money Orders issued and paid, and Commission received.

Year.	Issued.		Paid.		Commission.
	Number.	Amount.	Number.	Amount.	
		£		£	£
1876	112,684	465,771	101,492	421,162	4,663
1877	129,120	494,469	120,493	450,477	5,248
1878	142,025	538,800	129.143	487,458	5,772
1879	159,897	582,423	142,201	515,076	6,488
1880	190,606	669,022	168,944	583.340	7,684
1881	220,670	771,978	195,757	675,025	8,799
1882	247,716	883,524	218,334	771,861	10,027
1883	275,592	963,698	239,595	829,770	11,371
1884	305,883	1,068,068	270,678	921,904	12,651
1885	337,856	1,169,569	298,082	997,961	14,243
1886	345,825	1,134,955	309,576	982,336	14,927
1887	360,759	1,131,884	330,594	1,010,297	14,960

FINANCIAL POSITION OF AUSTRALIA.

A century of progress.

The first century of Australasian history closed on the 26th January, 1888. It is impossible to trace step by step the progress

Wealth of the colonies at various periods

made during that period, as the data for this purpose are for the most part wanting. Sufficient material is, however, available, from which a comparative statement of the wealth of the colonies at different periods may be deduced. In the following figures the private wealth of the people has alone been considered, the value of the unsold lands of the State, as weil as the value of public works, having been omitted. The subjoined table shows the wealth of the whole of Australasia and of New South Wales, and the increase thereof at intervals of twenty-five years from the date when this territory was first colonized.

January.	Australasia.		New South Wales.	
	Amount of Wealth.	Increase during 25 years.	Amount of Wealth.	Increase during 25 years.
	£	£	£	£
1788	—	Country first	colonized.	—
1813	1,000,000	1,000,000	1,000,000	1,000,000
1838	26,000,000	25,000,000	18,000,000	17,000,000
1863	181,000,000	155,000,000	69,000,000	51,000,000
1888	1,015,000,000	834,000,000	390,000,000	321,000,000

Progress unprecedented.

The progress exhibited in this table is marvellous, and as regards ratio, quite unprecedented. Though Australasia has but the population of a province of one of the great European powers, in the wealth and earnings of its people it stands before most of the secondary states, and as regards wealth and income per head of population far before any other country. The following figures are designed to illustrate this truth. Those relating to the United States of America are in some degree less favourable than usually credited to that great country, but are given upon the authority of that eminent statistician, M. G. Mulhall. The value of public works has been included in the wealth of Australasia; similar works are mainly constructed by private enterprise in other countries; but the value of Crown lands, whether leased or not, has been excluded.

Wealth of Principal Countries.

Country.	Wealth, Public and Private.	Wealth per Head.	Public Income per Head.			Private Income per Head.			Ratio of National Debt to Wealth.
	£	£	£	s.	d.	£	s.	d.	℘ cent.
Australasia	1,190,000,000	335	7	0	0	41	14	0	13·08
New South Wales ...	427,000,000	409	8	8	0	52	0	0	10·00
United Kingdom ...	8,720,000,000	249	2	9	0	35	4	0	8·75
France	8,060,000,000	218	4	3	0	25	14	0	11·30
Germany	6,323,000,000	140	0	15	0	18	14	0	3·63
Russia	4,343,000,000	53	0	16	0	9	18	0	12·70
Austria	3,613,000,000	95	1	19	0	16	6	0	11·64
Italy	2,351,000,000	82	2	7	0	12	0	0	22·22
Spain.....................	1,593,000,000	93	2	2	0	13	16	0	24·53
Belgium	806,000,000	145	2	13	0	22	2	0	7·70
Holland	987,000,000	240	2	6	0	26	0	0	8·08
United States	9,495,000,000	180	2	2	0	27	4	0	3·49
Canada	650,000,000	148	1	8	0	26	18	0	6·15
Argentine Republic..	332,000,000	146	2	16	0	......			......

Income of Australasia.

The figures given in the subsequent tables refer to the year 1887. The total income of the Australasian governments amounted in the year named to £25,307,482, and their expenditure to £26,616,710, showing a deficiency of £1,309,228. With the exception of Victoria, all the colonies exhibit a deficiency on the year's transactions. It will have been seen in the foregoing pages that, as far as New South Wales is concerned, and in this respect that colony does not differ from the others, the deficiency of one is often due to the surplus of a preceding year, which enabled a larger sum to be appropriated than actually received. This was true of many years between 1876 and 1887, but as regards 1887 itself, and the two years immediately preceding, the deficiency was due to the expenditure of more than was received, while there was not a surplus from previous years to make up the balance. The revenue is mainly derived from taxation which produced £10,586,489, and from public services such as railways, post and telegraphs, which yielded £9,206,115, in all £19,792,604, or 78 per cent. of the total revenue. The revenue from the sale or leasing of Crown lands has fallen considerably both in the gross

Deficiency of revenue.

sum and proportionately to the amount received. The following table shows the revenue under the various heads for each colony, as well as the total received :—

Revenue of Australasia.

Colony.	Taxation.	Land.	Public Services—Railways, Post Office, Telegraphs.	Other Sources.	Total.
	£	£	£	£	£
New South Wales	2,664,548	2,378,995	3,245,907	293,361	8,582,811
Victoria	3,364,176	583,815	2,828,848	277,595	7,054,434
Queensland	1,285,115	580,903	908,237	258,208	3,032,463
South Australia...	648,645	191,971	869,414	304,072	2,014,102
Western Australia	188,911	76,929	64,538	49,525	379,903
Tasmania	375,501	65,886	99,391	54,202	594,980
New Zealand......	2,059,593	266,089	1,189,780	133,327	3,648,789
Total	10,586,489	4,144,588	9,206,115	1,370,290	25,307,482

Public revenue per head.

The revenue per head averaged £7 5s. 2d., varying from £4 5s. for Tasmania to £9 5s. 2d for Western Australia, the two smallest colonies having the maximum and minimum rates respectively. The rate of each colony subdivided into the classification already given was as follows :—

Revenue of Australasia per Head.

Colony.	Taxation.	Land.	Public Services—Railways, &c.	Other Sources.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
New South Wales	2 12 2	2 6 6	3 3 6	0 5 8	8 7 10
Victoria	3 5 4	0 11 6	2 14 11	0 5 6	6 17 0
Queensland........	3 12 5	1 12 9	2 11 2	0 14 6	8 10 10
South Australia ..	2 1 6	0 12 3	2 15 8	0 19 5	6 8 10
Western Australia	4 12 1	1 17 6	1 11 5	1 4 2	9 5 2
Tasmania	2 13 8	0 9 5	0 14 2	0 7 9	4 5 0
New Zealand	3 9 1	0 8 11	1 19 11	0 4 6	6 2 5
Total	3 0 9	1 3 9	2 12 9	0 7 11	7 5 2

Receipts from taxation.

The receipts from taxation show a fairly large increase during the twelve years which have elapsed since 1876, the proportion in the year named being about 35 per cent. of the whole receipts, while in 1887 the proportion had risen to 41·83 per cent. The increase, however, has not been general, and is due mainly to the larger proportion of revenue from taxation now obtained in New South Wales and New Zealand than formerly, as will be seen from the following statement :—

Revenue of Australasia from Taxation.

Colony.	Proportion of revenue derived from taxation.		Revenue from taxation per Head.	
	1876.	1887.	1876.	1887.
	per cent.	per cent.	£ s. d.	£ s. d.
New South Wales...............	23·05	31·05	1 18 5	2 12 2
Victoria	41·16	47·68	2 5 0	3 5 4
Queensland.....	49·26	42·37	3 7 11	3 12 5
South Australia..................	34·84	32·20	2 0 9	2 1 6
Western Australia..............	56·14	49·72	3 6 8	4 12 1
Tasmania	63·00	63·11	2 0 3	2 13 8
New Zealand	37·70	56·44	3 9 8	3 9 1
Total	35·10	41·83	2 11 0	3 0 9

Large public expenditure of New South Wales.

The expenditure of the Government of New South Wales is far larger than that of any other colony of the group ; it exceeds that of Victoria by two and a half millions, and New Zealand by four and three quarters, and amounted to £9,098,460 out of a total of £26,616,710. The expenditure of all the colonies upon the working of railways and tramways was £5,075,650 ; on other public works and buildings, and on the postal and telegraphic service, £4,140,106 ; interest on public debt, £6,761,492 ; and on other services, chiefly defence, education, and civil government, the expenditure was £10,639,462, the proportion under each head being—

Working Expenses of Railways and Tramways ...	19·07 per cent.
Public Works, Post and Telegraphs	15·55 ,,
Interest on Debt....................................	25·40 ,,
Other Services—Civil Government.....................	39·97 ,,

Subdivision of expenditure.

The total expenditure for each colony under the heads given above was—

Expenditure of Australasia.

Colony.	Railways and Tramways.	Other Public Works, including Post and Telegraphs.	Interest on Debt.	Other Services.	Total.
	£	£	£	£	£
New South Wales	1,698,716	1,806,806	1,693,926	3,899,012	9,098,460
Victoria	1,605,061	977,615	1,400,642	2,621,486	6,604,804
Queensland	534,381	517,970	942,815	1,354,883	3,350,049
South Australia...	409,128	273,755	710,030	752,222	2,145,135
WesternAustralia	47,712	99,814	65,840	243,531	458,897
Tasmania	80,902	172,615	182,571	232,670	668,758
New Zealand......	699,750	291,531	1,765,668	1,535,658	4,292,607
Total	5,075,650	4,140,106	6,761,492	10,639,462	26,616,710

Railway expenditure.

It will be seen from the foregoing statement that about 19 per cent. of the whole expenditure was for working the railways and tramways of the colonies, a service not usually undertaken by the State. The ordinary expenses of civil government amount to nearly 40 per cent. of the expenditure; public works, post and telegraphs absorb 15·5 per cent., and the interest on the public debt 25·4 per cent. The rates of expenditure per head of population were as follows:—

	£	s.	d.
Railway and Tramways	1	9	2
Other Public Works—Post and Telegraphs	1	3	9
Interest on public debt................................	1	18	9
Other Services—Civil Government..................	3	1	0
Total	£7	12	8

Expenditure per head.

The details for each Colony are shown in the following statement :—

Expenditure of Australasia per Head.

Colony.	Railways and Tramways. Working Expenses.			Other Public Works, including Post and Telegraphs.			Interest on Debt.			Other Services.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
New South Wales	1	13	3	1	15	4	1	13	2	3	16	3	8	18	0
Victoria	1	11	6	0	19	2	1	7	6	2	11	5	6	9	7
Queensland	1	10	2	1	9	2	2	13	2	3	16	5	9	8	11
South Australia..	1	6	3	0	17	6	2	5	5	2	8	2	6	17	3
Western Australia	1	3	3	2	8	8	1	12	1	5	0	0	11	2	8
Tasmania	0	11	9	1	4	8	1	6	1	1	13	3	4	15	9
New Zealand	1	3	6	0	9	8	2	19	3	2	11	6	7	3	11
Total	1	9	2	1	3	9	1	18	9	3	1	1	7	12	8

Interest on public debt.

The most remarkable feature in the preceding statement is the largeness of the amount required to pay interest on the public debt, both in regard to the rate per head, and the proportion of total revenue thus hypothecated. The proportion for all colonies is slightly more than one-fourth of the total expenditure, and £1 18s. 9d. per head of population, while the proportion of expenditure for each colony was—

New South Wales	18·62
Victoria..	21·21
Queensland	28·14
South Australia	33·09
Western Australia	14·41
Tasmania	27·30
New Zealand	41·13
Mean...	25·40

Burthen of debt.

A casual glance at the above figures will lend colour to the suggestion sometimes hazarded that the colonies are too rapidly mortgaging their resources, and that the expense of the public debt will prove a greater burthen than they can easily bear. However true this suggestion may be as far as any individual colony is concerned, as regards the whole of Australasia it is certainly erroneous. Out of the sum required to pay interest, viz., £6,755,432, about two and a half millions are directly recouped by the profit on public railways, while a further amount is yielded by water supply, sewerage, and other works. Besides this, there is a large indirect revenue obtained by each colony from the opening up of its public lands, and from the construction of breakwaters, light-houses, bridges, and other works of public utility. Victoria is the only colony, however, which enjoys an actual surplus of revenue over interest, from works paid for out of the proceeds of loans. The following table shows the expenditure of the Colonies from loans. In the case of New South Wales there was an unexpended balance of £1,076,653, which could not be distributed under the heads given, and in that of New Zealand there was an accrued sinking fund of £3,469,264.

Indirect revenue from public works.

Expenditure of Australasia from Loans.

Colony.	Railways.	Water Supply and Sewerage.	Immigration.	Other Services.	Total.
	£	£		£	£
New South Wales	29,989,750	3,472,882	569,930	5,886,135	39,918,697*
Victoria	25,413,206	5,007,650	......	2,698,308	33,119,164†
Queensland	13,127,799	472,115	2,379,447	7,341,489	23,320,850
South Australia...	10,891,728	2,729,500	......	5,547,272	19,168,500
Western Australia	816,147	......	......	464,553	1,280,700
Tasmania	1,505,276	......	235,000	2,369,094	4,109,370
New Zealand......	14,082,710	......	2,077,421	21,427,645	37,587,776‡
Total	95,826,616	11,682,147	5,261,798	45,734,496	158,505,057

* The total debt was £40,995,350 showing an unexpended balance of £1,076,653 at the close of the year 1887. † On 30 June, 1887. ‡ On 31 March, 1887. Less Account Sinking Fund, £3,469,264.

The expenditure from loans for all the colonies amounted to £45 9s. 2d. per head; the rate for New Zealand, Queensland, and South Australia being from £15 to £20 above the average.

Expenditure from Loans.

Of the leading colonies Victoria stands lowest on the list with an expenditure of £32 9s. 8d.; but as already explained, this expenditure is not only not a burthen to that colony, but yields a substantial sum towards the general revenue. New South Wales compares very favourably with most of the colonies, and having regard to her great natural and acquired wealth the debt per head is by no means large, especially as the charge amounts to only 18·62 per cent. of the general expenditure.

Public Debt of Australasi[illegible] Head of Mean Population.

Colony.	Railways.			Water Supply.			Immigration.			Other Services.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
New South Wales	29	6	8	3	7	11	0	11	2	5	15	2	39	0	11
Victoria............	24	18	6	4	18	3	....			2	12	11	32	9	8
Queensland	37	0	0	1	6	7	6	14	2	20	13	11	65	14	8
South Australia...	34	16	10	8	14	8	....			17	14	11	61	6	5
Western Australia	19	17	9	....			....			11	6	5	31	4	2
Tasmania	10	15	3	....			1	13	7	16	18	10	29	7	8
New Zealand......	24	3	8	....			3	11	4	36	16	0	64	11	0
Total.........	27	9	8	3	7	0	1	10	2	13	2	4	45	9	2

PART XIX.

Instruction, Science, and Religion.

PRIMARY EDUCATION.

Early system of subsidies.

THE history of primary education in New South Wales is naturally divided into four periods. During the first period, which lasted until 1848, the system in force was purely denominational, the Government granting to the heads of religious bodies assistance in proportion to the amount expended by them for educational purposes. No provision was made for the establishment of schools entirely under State control, and considerable dissatisfaction was the result. As early as 1834, attempts were made to modify the system in force, and five years later a grant was made with the object of securing undenominational education for the children of those who preferred it. It was not, however, until 1844 that any definite steps were taken in this direction. In that year a Committee of the Legislative Council reported in favour of the adoption of the Irish National School system, and, in accordance with this recommendation, an Act was passed constituting two Boards, to one of which was entrusted the administration of denominational education, and to the other the undenominational, or, as it was called, the National system. This anomaly of two rival Boards existed for eighteen years, until it was abolished by the passing of the Public Schools Act of 1866. This Act also provided for two distinct classes of schools, though all schools receiving aid from the State were nominally under the control of a Board appointed by the Government, and styled the Council of Education. The Public Schools were entirely

First grant in aid of undenominational education.

The Public Schools Act of 1866.

administered by this Board, but the denominational schools were partly governed by the various religious bodies by whom they had been founded. Although the system established by the Act of 1866 was essentially one of transition, education nevertheless made considerable progress during the years of its administration. But it was found impossible to maintain this dual system, not only on account of its intrinsic defects, but because the principle of granting State aid to religious schools was manifestly repugnant to the feelings of the majority of the people.

State aid to denominations abolished.

In 1880 State aid to denominational education was at length abolished. By an Act passed under the auspices of Sir Henry Parkes, which received the Royal assent on the 16th April, 1880, the entire educational system of the Colony was remodelled, and amongst other important provisions, it was enacted that State grants to denominational schools should cease with the year 1882. So great a change was not wrought without much opposition, and many denominational schools which existed at the period of the withdrawal of State aid were maintained by the religious bodies to which they belonged. Although withdrawing aid from denominational schools, the Act of 1880 does not entirely banish religious instruction from State schools. On the contrary, it provides that one hour each day shall be available, during which the authorized teachers of any church may impart religious instruction to the children of their faith, provided the parents of the children are agreeable thereto. The privilege thus afforded is, to some slight extent, taken advantage of by the clergy of all denominations.

Instruction compulsory.

The second great principle of the Act is that instruction shall be compulsory for all children between the ages of 6 and 14 years. By section 20 it is made obligatory upon the parents or guardians of all children between the specified ages to cause them to attend school for a period of at least seventy days in each half-year, under certain prescribed penalties. Though compulsory, instruction is not altogether free. All parents in a position to contribute towards their children's education are required to pay, in State schools, the nominal sum of 3d. per week for each child, but in cases where inability to pay even this small sum can be fairly pleaded, the Minister, or the Public School Board of the district, has power to remit the fee entirely, so that no child is denied the benefits of that instruction which the State provides. Other facilities are granted to children attending school. They are permitted to travel free on the State railways as far as the school nearest their residence, a concession of no little importance in the country districts. The Act makes no attempt to interfere with the rights of parents to send their children to whatever school they choose, whether supported by the State or by private persons, provided the attendance specified by the Act is given. No impediment is offered to the establishment of private schools, but no State assistance is given to them, either directly or indirectly.

Liberal provisions of the Act.

The care of the State is not entirely devoted to primary instruction, for the claims of secondary education are fully recognized, and the Act of 1880 provides Superior Public Schools and High Schools, for children of both sexes, wherein such education may be obtained as will fit the pupils for commercial or professional callings, or the higher educational curriculum of the University. Here, however, the direct assistance of the State terminates, although indirectly it goes a great deal further and provides ample endowments for University education.

Secondary education.

Great as has been the material progress of the Colony, its intellectual advancement has been much more rapid. In the records of the marriage registers signed by marks, a most accurate gauge of educational progress will be found. The earliest official record of marriages was for the year 1857, when out of 5,804 persons married 1,646 or 28·36 per cent. were unable to sign the marriage register. During 1887, the number of such persons was only 531, or 3·50 per cent. of the total number married. A generation has passed away during the period embraced by the following table, and the progress shown thereby cannot fail to be interesting.

Progress of education.

Progress of Education in New South Wales, as shown by the Number of Persons signing Marriage Register with Marks.

Year.	Persons married.	Percentage signing with marks.	Number signing with marks.	Year.	Persons married.	Percentage signing with marks.	Number signing with marks
1857	5,804	28·36	1,646	1873	8,768	14·26	1,252
1858	5,984	20·86	1,248	1874	8,686	11·96	1,039
1859	6,590	26·86	1,770	1875	9,210	12·26	1,129
1860	5,890	26·46	1,559	1876	9,260	10·47	970
1861	6,444	24·60	1,585	1877	9,988	9·76	975
1862	6,652	25·01	1,664	1878	10,634	8·10	863
1863	6,628	22·69	1,504	1879	10,782	7·58	818
1864	6,960	22·70	1,580	1880	11,144	6·66	743
1865	7,156	22·06	1,579	1881	12,568	6·94	872
1866	6,924	21·63	1,498	1882	13,896	5·63	782
1867	6,852	18·84	1,291	1883	14,810	6·10	903
1868	7,472	20·14	1,505	1884	14,964	5·23	783
1869	7,598	19·19	1,458	1885	15,236	4·74	723
1870	7,696	18·23	1,403	1886	15,622	3·98	622
1871	7,906	16·96	1,341	1887	15,180	3·50	531
1872	7,850	13·62	1,069				

Marvellous progress of education.

The progress exhibited in the above table is marvellous. The residuum of population not yet educated is already very small, and, moreover, of the 531 persons using marks a large proportion were not born in New South Wales, but arrived in this Colony too late in life to avail themselves of its educational system. The proportion of persons using marks is somewhat higher in this Colony than in any other member of the group, except Queensland. This is in no sense due to the superiority of the educational system of those colonies, but rather to the number of immigrants attracted to New South Wales, amongst whom there will always be found many persons unable to write.

Illiteracy in other Colonies.

Figures respecting all the colonies are not available, and in most of them the particulars as to the number of persons signing with marks cannot be procured later than 1885. In the year mentioned, the degree of illiteracy, as disclosed by the marriage registers, was—

	Percentage signing with marks.
New South Wales	4·74
Do (1887)	3·50
Victoria	2·59
Queensland	5·55
South Australia	4·15
New Zealand	3·32

Children instructed in former years.

Only an imperfect comparison can be made as to the number of children under instruction during past years, as the number in actual attendance cannot be distinguished from the number enrolled. The following table, however, gives the number of schools and enrolled scholars for fifty years, and though it cannot be taken as absolutely correct, it may be relied on as fairly indicative of the educational progress of the Colony :—

Progress of Education in New South Wales.

Year.	Population of the Colony.	No. of schools.	Children enrolled.	Proportion of population enrolled.
				per cent.
1836	77,096	85	3,391	4·40
1841	149,669	209	9,632	6·44
1846	196,704	394	19,033	9·68
1851*	197,168	423	21,120	10·71
1856	286,873	565	29,426	10·26
1861†	357,978	849	37,874	10·58
1866	428,813	1,155	59,594	13·90
1871	517,758	1,450	77,889	15·04
1876	614,181	1,629	131,620	21·43
1881	778,690	2,066	166,536	21·40
1886	1,001,966	2,833	220,724	22·02
1887	1,042,919	2,925	224,510	21·52

* The separation of Victoria took place in this year.

† Queensland became a separate colony in December, 1859.

The number of children given in the above table as enrolled in the various schools exceeds, in almost every case, the actual school attendance, as the gross enrolment for the year is given, and not the mean for each quarter. The latter information cannot be obtained except for recent years, but the figures as they stand give a basis of comparison, which is not without value.

Enrolment of children.

The following table shows the gross enrolment of distinct children during the seven years which closed with 1887, as well as the quarterly enrolments, in all the schools of the Colony. The last column may be taken as giving the nearest approximation to the number of children actually under tuition in State and private schools.

Year.	Schools.	Teachers.	Scholars.	
			Gross enrolment.	Mean quarterly enrolment.
1881	2,066	3,772	166,536	145,936
1882	2,161	4,154	188,507	156,768
1883	2,315	4,543	189,983	164,270
1884	2,535	4,860	202,519	174,544
1885	2,666	5,267	210,743	183,873
1886	2,833	5,659	220,724	193,978
1887	2,925	5,714	224,510	197,712

Number of children of school age.

The number of children of school age—that is to say, from five to fifteen years—during 1887, was probably not less than 255,610. Of this number 157,262 were receiving instruction in State schools, and 40,450 in private schools, or in all 197,712; while the remainder, numbering 57,898, were either receiving no instruction, or were being taught at home. No reliable estimate of the number of children under home tuition can be made, neither is it possible to determine the number of those who have ceased to attend school before reaching their fifteenth year, but it is very probable that considerable numbers are to be found in both classes.

Owing to the sparseness of the population in nearly all the country districts of the Colony, the compulsory clauses of the Instruction Act cannot be strictly enforced. Nevertheless, the number of children growing up in absolute ignorance is by no means great, and, though the proportion of such children cannot be even approximately determined, there is sufficient evidence to warrant the conclusion that it is steadily decreasing. At the last three census the proportions of children from 5 to 10 years who could read and write were in every ten thousand as under:—

Compulsory clauses not strictly enforced

	1861.	1871.	1881.
Read and write	2,331	3,527	4,475
Read only	3,375	2,717	1,961
Unable to read	4,294	3,756	3,564

Taking the children from 10 to 15 years, the comparison is still more satisfactory.

	1861.	1871.	1881.
Read and write	6,964	7,861	8,929
Read only	1,879	1,238	573
Unable to read	1,157	901	498

The steady decrease in the proportion of illiterate children from 1861 to 1871, and from 1871 to 1881, is plainly visible from the above tables, and there can be little doubt that this satisfactory decrease has since continued.

Progress of education amongst children.

PUBLIC INSTRUCTION—STATE SCHOOLS.

When the present Public Instruction Act came into operation, on the 30th April, 1880, the Council of Education ceased to exist, and handed over to the new administration the schools, until then under its control. At the date mentioned, there were maintained, or subsidized by the Government, 1,220 schools, attended by 101,534 scholars, thus distributed:—

Schools when present Act came into force

	No. of Schools.	No. of Pupils.
Public	705	68,823
Provisional	313	8,312
Half-time	97	1,683
Denominational	105	22,716
	1,220	101,534

Enrolment since passing the Act.

At the close of 1882, the connection of the denominational schools with the State ceased, and the subsequent year is marked, as was to have been expected, by a considerable falling off in the number of children who were receiving their education at the expense of the State. The check only operated for a short period, as the year 1884 shows a recovery of more than the ground lost. This will be seen by the following table which shows the enrolment and attendance of children at State supported schools only :—

Year.	Gross enrolment.	Quarterly enrolment.	Average attendance.
1880	*	111,277	72,969
1881	146,106	125,506	82,890
1882	166,611	134,872	90,944
1883	155,918	130,205	88,546
1884	167,134	139,159	95,215
1885	173,440	146,570	100,462
1886	179,990	153,244	105,538
1887	184,060	157,262	106,408

* Not ascertained.

Increase in enrolment.

In the enrolment for 1887, 21,720 of the children were under the age of 6 years, 151,297 between 6 and 14, and 11,043 over 14 years of age.

Since the withdrawal of aid from denominational schools, the increase in the average quarterly enrolment at State schools has been 20·8 per cent., the increase in each year being—

1884	6·88 per cent.
1885	5·32 ,,
1886	4·55 ,,
1887	2·62 ,,

Number of schools.

The number of schools under the direct control of the Department, during 1887, was 2,236, thus classified—

High Schools	6
Public Schools—mixed	1,496
,, Two departments	45
,, Three departments	71
Provisional Schools	332
Half-time Schools	194
House-to-house	69
Evening Schools	23
Total	2,236

State Schools in Australasian Colonies

The following table gives the number of State schools in each of the Australasian Colonies, together with the number of scholars and the average attendance :—

State Schools.

Colony.	Number of Schools.	Average Quarterly Enrolment.	Average Attendance.	Average number of Pupils per School.
New South Wales	2,236	157,262	106,408	70
Victoria	1,870	177,836	123,550	95
Queensland	467	45,761	32,250	98
South Australia	541	38,081	28,000	70
Western Australia	89	4,363	3,344	50
Tasmania	215	16,527	8,182	77
New Zealand	1,093	35,637	85,637	78

Number of Teachers.

The teachers in New South Wales during the year numbered 3,841, viz., 1,945 males, and 1,896 females.

	Males.	Females.
In charge of departments	1,445	833
Assistants	154	320
Pupils	317	613
Others	29	130
	1,945	1,896

The average number of pupils on the basis of the mean quarterly enrolment per teacher was, therefore, 40·9, and the average attendance per teacher, 27·7, while the average enrolment of children per school was 70·3.

Public School curriculum.

The curriculum of the public schools of New South Wales provides merely for imparting to children a sound course of primary education, and the elements of those sciences which form the basis higher courses of education, scientific or technical. The State ovides separately the necessary facilities for acquiring technical nowledge, under a system of training recently introduced, about which more will be said further on.

The staff of male and female Public School teachers is trained in the normal schools of the Colony—the Fort-street training school for male teachers, and the Hurlstone training school for female teachers. These establishments are under the strictest supervision, and improvements are made every year in order to keep pace with the most modern systems of training. Admission is obtainable to these schools by examination, and the students are almost exclusively recruited from the ranks of the pupil-teachers of both sexes. These pupil-teachers are selected with great care, as they are required to undergo severe examinations, and must also satisfy the department as to their physical aptitude and the soundness of their constitutions, in view of the arduous nature of the duties they are called upon to perform.

During the year 1887, the number of teachers in the service of the Department of Public Instruction was, as already stated, 3,841. The teachers obtain promotion only after passing a series of examinations, which are so framed as to efficiently test their progress in general capacity. There are ten classes of teachers, the emoluments of the classes ranging from £96 to £500 per annum (including residence) for male teachers, and from £96 to £326 per annum for female teachers.

The local supervision of the Public Schools of the Colony is placed in the hands of Public School Boards appointed in the various districts of the Colony, under the provisions of the Public Instruction Act. These boards exercise a general oversight over the Public Schools in their districts, but cannot interfere with the internal discipline or management of the schools, which remain under the direct control of the Minister of Public Instruction, and the inspectors and other officers of his department.

The average cost per child of the average yearly attendance in the Public Schools has greatly varied, as will be seen by the following table, which gives the averages for the seven years, 1881 to 1887, inclusive.

Year.	For school premises.	For the maintenance of schools.	For administration, including the amount paid as retiring allowances.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1881	1 4 9¾	3 15 3	0 14 3¾	5 14 4½
1882	2 10 2¾	3 15 1¾	0 10 8¼	6 16 0¾
1883	4 8 3¾	4 2 0¼	0 15 3½	9 5 7¼
1884	3 3 11	4 4 2¾	0 14 5¾	8 2 7½
1885	1 15 5¼	4 3 7	0 13 1¼	6 12 1½
1886	1 9 4¾	4 1 6	0 13 1¼	6 4 0
1887	1 2 6½	4 3 7¼	0 11 3¾	5 17 5½

Cost per child in other colonies.

In the Public Schools of New South Wales the cost per child is greater than in those of Victoria and the other principal Australian Colonies, the figures for which were as follows :—

	Total cost per child of the average attendance.
New South Wales	£5 17 5½
Victoria	5 6 2¼
Queensland	5 17 4½
South Australia	4 15 7½
Western Australia	4 0 8¾
New Zealand	4 4 10

The cost per child in average attendance at the Board Schools, England, was £4 6s. 4d.

Expenses incidental to starting present Act.

It must be borne in mind, however, that a considerable outlay was needed to build the necessary school-houses after the Act of 1880 became law. Under this Act the expenses contingent upon the necessity of obtaining efficient results, in a country so sparsely populated as New South Wales, were unavoidably great. School-houses had to be built, teachers required training, and the whole machinery for providing schools and teachers in so many parts of the country where there were none but denominational schools, and frequently no educational establishments at all, had to be started. To these initial expenses is due, in a great measure, the relatively high cost of public education in the Colony of New South Wales. It is natural, however, to expect that this cost will decrease in the future, as the school-houses have been built with due regard to the increase in the number of scholars which must be expected in a young, prosperous, and growing colony. It may be added that most of the school-buildings are of such a character as would do credit to the most advanced countries in the world, the greatest care being taken to have them replete with all the modern improvements which the experience of centuries has suggested in older communities.

Comparative cost of education.

When comparing the average cost of education per child in attendance in New South Wales with that of the neighbouring colony of Victoria, for instance, it must be borne in mind that the considerably smaller extent of the territory of the latter, and the greater travelling facilities, which a railway system proportionately much larger offers in that colony, must necessarily reduce the cost of education. In South Australia and Western Australia settlement is confined to certain districts in which the population is more compact, whilst the whole of the territory of New South Wales, if we except the extreme west, may be regarded as everywhere settled, at least to such an extent as to necessitate the extension of the Public School system throughout the greater part of the Colony. But the spread of public instruction is considered so pre-eminently important an object, that the Legislature has at all times expressed its readiness to make every sacrifice, and spare no expense to render the system of national education which it adopted in 1880 efficacious.

Amount expended on primary education.

The following table will show the total amount expended by the State since the year 1881, and the annual amount per head of population provided for the primary education of the children of the Colony :—

Year.	Amount.	Per head of total population.	Year.	Amount.	Per head of total population.
	£	s. d.		£	s. d.
1881	474,157	12 7	1885	663,696	14 3
1882	618,800	15 7	1886	654,410	13 1
1883	821,852	19 8	1887	624,983	12 0
1884	774,357	17 7			

Details of expenditure on education.

This statement would not be complete if some details were not furnished, showing under what principal heads this expenditure was incurred, and the amount of school fees received during the same period :—

State Expenditure on Education.

Year.	Number of Schools.	Number of Pupils.	On school premises.	On maintenance of Schools, including Administration, &c.	Total.	Less School Fees.	Net State Expenditure.
			£	£	£	£	£
1881	1,667	146,106	102,903	371,254	480,000	46,347	433,653
1882	1,795	166,611	228,401	390,399	618,800	51,312	567,488
1883	1,706	155,918*	391,000	430,852	821,852	51,427	770,425
1884	1,912	167,134	304,383	469,974	774,357	56,766	717,591
1885	2,046	173,440	178,001	485,695	663,508	58,925	604,582
1886	2,170	179,990	155,072	499,338	654,410	63,164	591,246
1887	2,236	184,060	119,957	505,026	624,983	63,896	561,087

* Certified Denominational Schools were discontinued at the close of 1882.

School fees.

It will be seen that the amount directly contributed by parents towards their children's education is but a small proportion of the total cost. In 1887, however, it was proportionately larger than in any year since the existing Act came into force, as well as larger per head, as may be seen from the following statement :—

Average cost of Education per Child.

Year.	Cost to State per Child of Average Attendance.	Total Cost per Child of Average Attendance.	Amount of Fees received per Child of Average Attendance.
	£ s. d.	£ s. d.	£ s. d.
1880	4 16 7	5 12 2	0 15 7
1881	5 4 7	5 15 9	0 11 2
1882	6 4 9	6 16 1	0 11 3
1883	8 14 0	9 5 7	0 11 7
1884	7 10 8	8 2 7	0 11 11
1885	6 0 4	6 12 1	0 11 8
1886	5 12 0	6 4 0	0 11 11
1887	5 5 5	5 17 5	0 12 0

The number of free scholars during the year 1887 was 5,801, 3,082 boys, and 2,719 girls, or 5·45 per cent. of the total children attending school.

School savings' banks.

In accordance with a design long contemplated, savings' banks were opened during 1887 in connection with the public schools of the Colony. Banks were established at 255 schools, and the deposits amounted to £9,446 15s. 9d. The object aimed at in establishing these banks is to inculcate the principles of the science of economics, while yet the minds of the children are susceptible of deep impressions. A systematic training for this purpose is a thing to be desired in every public school, in order to engender habits of thrift amongst school children, to indoctrinate them as to the uses and effects of money, that are ulterior to immediate gratifications, and to make them recognize and calculate upon poverty and degradation as the natural results of waste and improvidence.

PRIVATE SCHOOLS.

Attendance increasing.

The attendance at private schools has increased nearly twofold since 1882. This is entirely due to the withdrawal of aid from denominational schools. At the close of the year mentioned there were 124 denominational schools under the control of the Education Department, with 346 teachers, and 29,651 scholars. Many of these schools ceased to exist immediately on the withdrawal of State aid, and the children by whom they were attended were transferred for the most part to the ordinary Public Schools of the Colony. Some of the schools, however, were still maintained, chiefly those connected with the Roman Catholic Church, and thenceforth appear in the returns as private schools. The increase in the number of private schools during 1883 was 97, and the increase in the attendance of children was 12,361, so that, at the lowest computation, 27 denominational schools were immediately closed, and 17,290 children transferred to Public Schools.

Increase in private schools.

The following table gives the particulars respecting private schools from 1881 to 1887 :—

Private Schools.

Year.	Schools.	Teachers.	Scholars.	Year.	Schools.	Teachers.	Scholars.
1881	507	1,129	18,317	1885	611	1,654	35,967
1882	491	1,154	19,746	1886	647	1,808	38,766
1883	588	1,473	32,107	1887	689	1,873	40,450
1884	611	1,601	33,607				

Classification of private schools.

Dividing the private schools of the Colony into their respective classes, there were in operation during 1887:—

	Schools.	Teachers.	Scholars.
Undenominational	365	782	9,777
Church of England	73	167	3,329
Roman Catholic	238	897	26,992
Wesleyan	3	11	116
Presbyterian	7	13	135
Lutheran	2	2	88
Congregational	1	1	13
Total	689	1,873	40,450

Roman Catholic Schools.

Not a few of the schools returned as undenominational are religious schools, though no definite form of religious opinions is inculcated therein. Of distinctly religious schools, those of the Roman Catholic Church comprise the great majority, numbering 73·4 per cent. of professedly denominational schools, and 88 per cent. of the scholars educated therein. The number of pupils attending these schools was not ascertained for the years preceding 1886. On the withdrawal of State assistance from denominational schools in 1882 there were in operation under the Department of Education, 75 Roman Catholic Schools, attended by 16,595 pupils, while in 1887 there were 238 schools, attended by 27,032 pupils. There were, however, some Roman Catholic Schools prior to 1882 not receiving aid from the State, and, on the other hand, some of the schools which were closed in 1882 have not since been opened.

Church of England Schools.

The Church of England is the only other religious body maintaining schools of importance. During 1887, such schools numbered 73, and were attended by 3,329 pupils. As with the Roman Catholic Schools, it is impossible now to determine whether these schools have increased of late years; but it may be mentioned that at the end of 1882 there were in existence 42 Church of England Schools, frequented by 11,927 children.

HIGHER EDUCATION.

Curriculum of High Schools.

It has already been mentioned that the State has made provision for higher education, by the establishment of High Schools in the metropolis and the principal centres of population. The curriculum of these schools is of such a character as to enable students to complete the course of instruction, the basis of which they acquired in the Public Schools, and, if they so wish, to prepare themselves for the University examinations. Admission to these schools is by examination only. There were at the close of the year 1887, five High Schools for boys and girls, and the gross enrolment for that year was 383 boys and 327 girls, making a total of 710 children. During the year, 68 pupils passed the junior, 15 the senior, and 15 the matriculation examinations at the University.

Superior Public Schools.

Superior Public Schools, in which the subjects taught embrace, in addition to the ordinary course prescribed for Public Schools, such other subjects as will enable the students to compete at the senior and junior public examinations, are also established. There were 43 of these schools in existence at the end of 1887. They supply a want long felt in the community, and their number increases year by year.

STATE-AIDED EDUCATIONAL ESTABLISHMENTS.

State-aided schools.

In addition to the various classes of Public Schools maintained at the State's expense, and directly controlled by the officers of the Department of Public Instruction, there exist several institutions of an educational character which receive an annual subsidy from the Government. The most important of these is the Sydney

Grammar School, which is one of the principal schools in the Colony, and many men who have made their mark in the professions upon which they entered, at one time occupied its benches. In 1887, the average quarterly attendance was 426. The numbers of pupils who attended the University examinations were as follows:—Junior, 33, of whom 27 passed; Senior, 13, of whom 11 passed; and Matriculation, 26, of whom 24 passed. Towards maintaining this school the Colonial Treasury contributed the sum of £2,400.

Deaf and Dumb and Blind.

The Institution for the Deaf and Dumb and the Blind, principally supported by private contributions, received a State grant of £450, and, in 1887, a sum of £200 in addition as school fees for Government pupils. At the close of 1887, there were in this institution 74 children, 48 being males and 26 females. The total number on the roll during the year was 87, and of this number 67 were under the age of 14 years and 20 over it.

REFORMATORIES.

Industrial Schools.

Besides these establishments the State maintains three reformatories or disciplinary institutions, two for girls—the Industrial School at Parramatta, and the Shaftesbury Reformatory, near South Head—and one for boys—the nautical school-ship Vernon. At the Parramatta institution the total enrolment of girls during the year was 161, and the number remaining on the 31st December last was 90, of whom 42 were under and 48 over 14 years of age. The cost of maintaining the school in 1887 amounted to £2,900. The Shaftesbury Reformatory is under the Minister of Justice. It has been in existence over ten years, and is designed for the reception of young women under sentence, a wise provision, for by this means are avoided the alternatives of sending the offenders to the institution at Parramatta (late Biloela), where their influence and example might have a baneful effect on more youthful minds, or of consigning them to gaol. The want of a similar itution for criminal youths is much felt. It would indeed prove a boon in many cases, not only to the individuals themselves, but to society at large, and might often be the turning point in a career just started on a downward course. The number of inmates at Shaftesbury at the close of 1887 was 26, and the expenditure during the year amounted to £776. On board the Vernon 405 boys were dealt with during the year, and the number remaining at the termination of 1887 was 203, of whom 120 were under 14 years and 83 over. The management of the training-ship is excellent, and its cost to the State during 1887 was £5,612. The results obtained in the three above-mentioned establishments have hitherto been of a very successful character, many children having been reclaimed from a depraved life, or rescued from unhappy surroundings, and turned out, after a course of some years' training, useful members of society.

The Vernon Training Ship.

THE UNIVERSITY.

Sydney College.

In the year 1849 Mr. Wentworth presented a petition to the Legislative Council from certain shareholders of a proprietary school, known as Sydney College, praying for the appointment of a select committee of the House "to consider the best means of carrying on the institution so as to afford the youth of the Colony the means of obtaining instruction in the higher branches of literature and science." The committee, when appointed, had, however, slightly different instructions, and was directed to "consider and report how best to institute an university for the promotion of literature and science, to be endowed at the public expense." The committee, after a few weeks' deliberation, brought up its report, recommending the establishment of an university with a permanent endowment of £5,000 per annum out of the general revenue. The Council was shortly afterwards prorogued, and the University Bill consequently lost for that session. In 1850 the bill, which was based on the model of University College, London, was reintroduced by Mr. Wentworth, and, after some discussion and a few amendments, was passed, receiving the Royal assent on 1st October of that year.

In 1858 a royal charter was granted, which declares that "the degree of this University in arts, law, and medicine shall be recognized as academical distinctions of merit, and be entitled to rank, precedence, and consideration in the United Kingdom as fully as if the said degrees had been granted in any university of the United Kingdom." Charter.

A Senate of sixteen Fellows was constituted by the original Act to govern the University, and they were empowered to elect from among themselves their own Provost and Vice-Provost, which titles were later on changed to those of Chancellor and Vice Chancellor. The Fellows were, in the first instance, nominated by the Crown, but were to be replaced, as vacancies arose, by the Fellows themselves until there should be 100 graduates holding the degrees of Master in Arts, or Doctors in Law or Medicine. This number was reached in 1872, and the Senate then proceeded to draw up by-laws in which this assemblage was called "Convocation." By an Act passed in 1861, three Professors were made *ex officio* members of the Senate, and Acts in 1881 and 1884 enlarged the membership of Convocation which at present consists of 448 members. The first Senate commenced their labours at the close of the year 1850, with Mr. Edward Hamilton, M.A., as Provost, and Sir Charles Nicholson as Vice-Provost. They shortly established three chairs in Classics, Mathematics, Chemistry, and Experimental Physics, and sent to England for competent professors to fill them. Senate.

On the 11th October, 1852, the University was opened with an imposing ceremony, and twenty-four matriculated students were admitted to membership.

In 1877 Mrs. Hovell left £5,000 to £6,000 to the University for Geology and Physical Geography, but beyond this there was but little expansion until 1880, when an additional £1,000 was voted by Parliament for assistant lectureships. The Senate was first authorised to grant *Ad eundem* degrees in the next year to such persons as they might think fit, but only in respect of degrees Hovell bequest.

Admission of women.

conferred by Universities recognized by their by-laws. In this year, too, women were admitted to all the advantages and privileges of the University in complete equality with men, and several have taken the degrees of B.A. and M.A., and one of B.Sc., and an Act passed in 1884 confirmed the action of the Senate in this matter. In 1882 a further vote of £5,000 was made to enable the Senate to establish Schools of Medicine and Engineering, and to give some help to the original Department of Arts. Medical and Engineering Professors and Lecturers, and a Professor of Natural History, and some small lectureships in arts were created. The sum of £5,000 was soon found inadequate for the intended purposes, and has been increased to £7,900, inclusive of the £1,000 granted in 1880. Allowances have also been made for apparatus, and a sum of £2,000 per annum has been granted for evening classes in arts. By an Act passed in 1884, the Senate was empowered to give instruction and grant degrees in such subjects as it may think fit. With the exception of Theology and Divinity, the Senate have availed themselves of these provisions, granting degrees in science and engineering. A system of lectures to non-matriculants was commenced in 1882, first in the metropolis, but spreading to places at a distance; and it is not improbable that as time goes on these lectures may become a very prominent feature in the action and influence of the University.

Grose Farm granted to the University.

In 1855 the present site was granted by the Governor, Sir Charles Fitzroy, to the Senate for the erection of suitable buildings, and also to provide land for the prospective erection of four denominational Colleges. Before this grant was made the work of the University had been carried on in the old Sydney College, which, together with its library and even an endowment for a Scholarship bequeathed by Mr. Solomon Levy, was purchased by the Government for the new Institution, and a grant of £50,000 was made by Parliament in 1853 as a building fund. This building, however, passed back into the hands of the Government when the present site comprising about 126 acres, and formerly known as Grose Farm, was determined upon, and a further grant of 9 acres was afterwards made. As early as 1854 an Act was passed to aid and partly endow four colleges within the University. Contributions of not less than £10,000, and not more than £20,000, were to be made from the general revenue for building funds, provided that an equal sum were subscribed by private individuals, and £500 a year was to be paid annually by the Government towards the stipends of Principals for each College. Just before this, steps had been taken to establish a Church of England College, St. Paul's, and St. John's Roman Catholic College followed in 1857, and the Presbyterian College of St. Andrew's was incorporated in 1867. The Wesleyan body, who it was thought would found a similar institution, have not availed themselves of the opportunity, and by an Act passed in 1873 some 12 acres of the land originally intended for a site for their college, was given to the Prince Alfred Hospital on terms by which the hospital was to be connected with a contemplated University Medical School.

Affiliated Colleges.

The system of Public Examination, similar to the middle class examination of Oxford and Cambridge, was instituted in 1867, and has gradually spread, till last year there were no less than thirty-six local centres other than Sydney, six of which were in the Colony of Queensland, and at the examination held in September there were of that year 959 candidates. The University also initiated examinations of articled clerks in 1887, and an examination of candidates for appointment in the Civil Service.

Public Examinations.

Many donations have been made to the University for the use of students. Among the first was a gift of £1,000 from Mr. Thomas Barker, and from Sir Edward Deas-Thomson a like amount represented by land, which is now of twice that value. Many others followed, and about £44,000 has been presented up to the present date, exclusive of prizes, which have been exhausted by award, and irrespective of increases in value. About £11,000 of this is still in suspense on account of intervening life estates to the widows of testators. Besides the above a sum of £30,000

Benefactions.

was left by the late Mr. Thomas Fisher for a library, and £6,000 is promised from the Hon. William Macleay for a Curatorship of the Natural History Museum, presented by him to the University, and for which the Government have erected a suitable building. The estimated value of bequests other than money is £51,000 up to the present time.

Challis bequest.

In 1880 Mr. John Henry Challis left a sum, which is expected to reach more than £215,000 when the conditions of the testator's will have been fulfilled; this is the only bequest or donation, with the exception of Mrs. Hovell's property before-mentioned, for direct educational purposes, and the income from it is not expected to be available until 1890.

Bequests in 1887.

During 1887 Mrs. Helenus Scott presented 300 volumes of books, principally Oriental literature, to the library, Mr. William Roberts £4,000 for a travelling scholarship and £1,500 for a bursary, and the Hon. J. B. Watt £1,000 for an exhibition for ex-pupils of the Public Primary Schools. The purposes for which the various benefactions were given, and the manner in which they are invested, are as follows:—

Description.	Investments.				
	Mortgages.	Buildings and Land.	Fixed Deposits.	Debentures.	Total.
	£	£	£	£	£
Fellowships	100	....	380	800	1,280
Scholarships	700	3,276	12,310	2,700	18 986
Exhibitions	1,200	....	1,560	600	3,360
Bursaries	900	....	7,800	9,000	17,700
Lectureships	1,000	4,400	600	....	6,000
Prizes and Medals...	100	....	1,005	1,175	2,280
Other purposes	12,532	....	20,350	....	32,882
Total	16,532	7,676	44,005	14,275	82,488

The teaching staff consists of eight Professors, seventeen Lecturers, four Demonstrators and an Assistant in Physics, a Clinical Tutor in Medicine, four Evening Lecturers on Law, and four Lecturers under the Extension Scheme.

Degrees conferred by the University.

Since its foundation, the University of Sydney has conferred 688 degrees, the highest number bestowed in any one year being 51, in 1882. During the ten years ending 1887, the number of students attending lectures increased from 61 in 1877 to 215 matriculated and 329 non-matriculated students in 1887, whilst the number of candidates who attended the public examinations has increased both in the senior and junior divisions, the former having advanced from 63 in 1877 to 125 in 1887, and the latter from 303 in 1877 to 834 in 1887.

Corresponding increases in the number of successful candidates at the public examinations have also taken place, as the following table will show:—

Number of Students, and Results of Examinations.

Year.	Number of students qualified for matriculation	Number of students attending lectures.		Public Examinations.			
		Matriculated.	Non-matriculated	Number of seniors who came up.	Number of juniors who came up.	Number of seniors who passed.	Number of juniors who passed.
1876	34	58	...	53	356	40	212
1877	23	61	...	63	303	38	135
1878	24	62	...	58	364	41	243
1879	58	83	...	76	333	64	247
1880	64	76	...	66	381	54	209
1881	80	81	...	48	392	36	231
1882	101	97	...	57	398	43	240
1883	85	128	...	57	473	3	299
1884	142	203	...	65	563	48	379
1885	115	203	...	84	645	73	440
1886	122	203	137	107	858	83	548
1887	132	215	329	125	834	87	562

Revenue of University.

In the year 1887 the revenue from the Challis bequest, above mentioned, had not been available, owing to the conditions under

Expenditure of University.

which it was made not being completed. The expenditure of the University was therefore met out of the revenue accruing from students' fees, the Government aid, and sundry private sources. The following table will show the yearly state of the finances of the University during the period from 1876 to 1887 :—

Receipts and Expenditure of the University of Sydney.

Year.	Receipts.				Expenditure.
	Government aid.	Lecture fees.	Other sources.	Total.	
	£	£	£	£	£
1876	5,000	403	100	5,503	5,877
1877	5,000	334	100	5,434	5,434
1878	6,168	324	100	6,592	7,748
1879	5,114	476	100	5,690	5,746
1880	6,500	457	100	7,057	6,795
1881	6,000	706	100	6,806	6,227
1882	12,964	1,080	100	14,144	10,614
1883	14,343	1,266	120	15,729	15,381
1884	15,500	2,207	170	17,877	16,198
1885	16,500	2,479	385	19,364	20,094
1886	17,500	2,600	323	20,423	20,765
1887	16,918	2,819	308	20,045	22,516

School of Medicine.

Extensive additions to its magnificent buildings have been made for the use of the School of Medicine attached to the University. These buildings provide the most complete accommodation for students desiring to follow the profession of medicine and surgery, and the Prince Alfred Hospital affords them the necessary means of study. At the commencement of the year

1888, there were 54 undergraduates in the Medical School, a very fair number considering that this school was only established in 1883, and then commenced with only four students. A laboratory for the Department of Physics has also been recently erected, and is replete with every means of illustrating the teaching of physical science. The prospects of the University of Sydney are excellent, and it cannot fail to prosper, and exert a most beneficial influence on the future of Australia. The desirability of founding an Affiliated College open to females has been mooted.

University laboratory.

DENOMINATIONAL HIGH SCHOOLS AND COLLEGES.

Denominational Colleges.

All the principal religious bodies provide high schools and colleges where students may be educated according to the precepts of their various beliefs and prepared to compete for University honors, or the various professions which they may adopt. Evidence of the progress of superior denominational education in the Colony may be seen in the magnificent college buildings which surround the city, among which may be cited Newington College, the colleges of the Marist Brothers, and the Jesuit Fathers, at Hunter's Hill and Riverview, the old-established King's School at Parramatta, and a host of other first-class establishments erected under the patronage of the various religious bodies.

TECHNICAL EDUCATION.

Public attention was so strongly directed in the years which followed the great world exhibition of 1851, to the necessity of providing the artizan classes, and the people generally, with the means of obtaining a scientific knowledge of the various handicrafts, that technical schools sprang up in various parts of England, some being under the direct patronage of the State, while others were founded by the wealthy trade societies, or guilds, of the great English cities. The excellent results following the establishment of these schools could not fail to attract attention in the colonies, where a sound and practical knowledge of the manual arts is of paramount necessity. The foundation of the New South Wales Technical School was due in great measure to the efforts of a few gentlemen connected with the Sydney Mechanics' School of Arts, and as far back as 1873 it was decided to establish a Technical College affiliated to that institution, with the object of improving the scientific knowledge of Australian artizans. In the year 1878, a sum of £2,000 was granted by Parliament towards the organization of a Technical College, and for five years the work of the institution was carried on in connection with the School of Arts. In 1883, however, a board was appointed by the Government to take over its management, and the Technical College became thenceforth a State institution.

Foundation of Technical College.

Course of technical instruction.

The course of instruction, under the present constitution of the Technical College, comprises classes in agriculture, applied mechanics, arts, architecture, geology, chemistry, commercial economy, mathematics, elocution, pharmacy, physics, and domestic economy, and these classes are subdivided into sub-classes as may be warranted by circumstances.

Number of students.

The college is open to students of both sexes, and, during 1887, 415 female students attended for at least one term. The number of individual students in 1887 averaged 969 persons, and the total number who received instruction for at least one term was not less than 1,930. The average daily attandance was 689.

Country classes.

Branch technical schools have also been established in the northern, southern, and western districts of the Colony, and in 1887 these country classes had an average of 751 students enrolled, with an average attendance of 318.

Technical workshops.

Technical workshops have been fitted up in Sydney, where mechanical classes are held, and the teaching is illustrated by all the various tools and apparatus needed for the proper understanding of the different processes of each separate class of work. The Technical College is now fairly established, and its benefits are already being felt and appreciated, whilst the future has every promise of still greater usefulness.

Cost of technical education.

In 1887, the expenditure of the Board of Technical Education amounted to £16,972. The means at the disposal of the board have not been sufficient for the establishment of country branches in every case where application has been made, but lecturers have been appointed to visit from time to time the principal country centres, and deliver lectures in mineralogy, geology, and agriculture. Proposals have also been made for the granting by the State of suitable areas, or reserves, for the purpose of establishing agricultural colleges and experimental farms, and the near future may see an extension of technical education in this direction.

SCIENTIFIC SOCIETIES.

Royal Society.

In a young country such as New South Wales, where most of the people are engaged in the development of its material resources, the existence of a leisured class, or one devoted to the pursuit of science, is hardly to be looked for. Nevertheless it is satisfactory to find that the higher aims of science are far from being neglected. As far back as the year 1821, a scientific society under the title of the Philosophical Society of Australasia was founded in Sydney, which, after experiencing many vicissitudes of fortune, was transformed in 1866 into, and afterwards incorporated under the title of, the Royal Society of New South Wales. The society is now in a flourishing condition, counting amongst its members some of the most eminent men in the Colony. Its object is to forward the advancement of science in Australia, and favour original research in all subjects of scientific, artistic, and philosophical interest, which may further the development of the resources of Australia, draw attention to its productions, or illustrate its natural history. The proceedings, published every year, include papers of the greatest interest on important scientific questions, especially those whose solution is of Australian interest.

Linnæan Society.

The study of the botany and natural history of Australia has attracted many enthusiastic students, and the Linnæan Society of New South Wales was also established for the special purpose of furthering the advancement of these particular sciences. The society is housed in a commodious building at Elizabeth Bay, one of the most beautiful spots near the city, and already possesses a library and museum. The society has been liberally endowed by the Hon. William Macleay, who, not content with being one of its most munificent supporters, is also an indefatigable worker in the field of science. The society's proceedings are published at regular intervals, and contain many valuable papers, together with excellent illustrations of objects of natural history.

Geographical Society.

In 1883, a third scientific society was formed in Sydney under the name of the Geographical Society of Australasia, with the view of promoting geographical research in a part of the world where much remains to be discovered. Branches of this society have been established in the cities of Melbourne, Brisbane, and Adelaide, and there is no lack of interest displayed in their proceedings. Among the first tasks undertaken by this Society was the despatch of an expedition to New Guinea, for which purpose aid was obtained from the various Colonial Governments. The expedition was under the command of Captain Charles Everill, and resulted in the acquisition of some very useful geographical and scientific knowledge of the island, the discovery of a large affluent of the Fly River being, perhaps, the most important achievement of the expedition.

Aid received by scientific societies.

The scientific societies just mentioned depend for support on private contributions, though, except in the case of the Linnæan Society, the Government grants them small sums annually in proportion to the income received from subscriptions, and has hitherto allowed their "Proceedings and Transactions" to be printed free of charge at the Government Printing Office.

Sydney Observatory.

Among the other institutions of a scientific and educational character which the Colony so liberally supports, the Sydney Observatory is not the least important. Situated in a commanding position, it is admirably fitted for the purpose it is intended to serve. The present building was erected in 1856 at the instance of Sir William Denison, then Governor of the Colony, who took a great interest in scientific pursuits. The Government Astronomer has under him a complete staff of assistants, and during the year 1887 a sum of £4,116 was expended in connection with the institution. Meteorological observations have received special attention, as befits so important a subject in a country whose prosperity depends so much upon climate. When the present Astronomer took office in 1870, there were in the Colony only six stations, and observations on the climate, rainfall, and other meteorological phenomena were necessarily very limited in character. At the end of 1887, the number of stations had been increased to 867. Rain gauges have also been established at most of the sheep and cattle stations of the interior, with a result which is highly satisfactory. The light shed on the true characteristics of the climate, especially of that part of the Colony remote from the sea coast, has tended to remove the notion long current as to its unfitness for agricultural as well as pastoral settlement.

Australian Museum.

The Australian Museum, which is the oldest institution of the kind in Australia, occupies a conspicuous site in the centre of Sydney, facing one of the principal parks. The collections contain carefully selected specimens of the principal objects of natural history found in kindred establishments, and also a most complete collection of zoological specimens of distinctly Australian character. The popularity of the institution is evinced by the increasing number of persons by whom it is visited. The Museum is open to visitors every day, including Sunday, on which day the visitors are very numerous. The number of visitors during 1887 was 122,799, the daily average being 709 on Sundays, and 275 on week days. The expenses in connection with the institution amounted to £8,535, of which £4,959 was expended on account of purchases.

Free Public Library.

The Free Public Library was established on the 1st of October, 1869, when the building and books of the Australian Subscription Library were purchased by the Government. The books thus acquired formed the nucleus of the present library. The number of volumes originally purchased was about 16,000, and on the 31st December, 1887, they had increased to 75,962, including those in the lending branch, or lent to country libraries. The lending branch was established in 1877, to meet a growing public want, and, under the present system any person may, on the recommendation of a clergyman, magistrate, or other responsible person, obtain under certain simple regulations, the loan of any of the works on the shelves, free of charge. The scope of this institution was further extended by the introduction of a system by which country libraries and Mechanics' Institutes may obtain on loan works of a select kind, which in many instances would be too expensive for them to purchase on account of the slender funds at their disposal. Under this system, boxes are made up containing from 60 to 100 books, and forwarded to the country libraries on application, to be returned, or exchanged within four months. This system was initiated in August, 1883, and has been carried on successfully ever since. In the course of 1887, 86 boxes, containing 6,363 volumes, were forwarded to 44 institutions, some of them at considerable distances from the metropolis. The distance which these books were carried amounted to 33,904 miles, being on an average 382 miles for each box, an enormous distance, partly accounted for by the fact that some places to which books are sent were most readily accessible through other colonies. All the charges in connection with the despatch and return of books, insurance, &c., are defrayed by the State, and the system in vogue in New South Wales is the most liberal of its kind in existence.

Loan of books to country libraries.

Reference Library.

The reference department of the Free Public Library contains 51,129 volumes, and the lending branch 22,012. The country libraries were, on the 31st December, 1887, in possession of 2,821 volumes, lent under the system above mentioned, the total number of books and pamphlets, the property of this institution, being 75,962, classified as under :—

Synopsis of Classification.	Reference Department	Lending Branch.	Country Libraries.	Total.
Natural Philosophy, Science and the Arts	5,691	2,774	495	8,960
History, Chronology, Antiquities, and Mythology	4,949	2,373	730	8,052
Biography and Correspondence	3,409	2,828	723	6,960
Geography, Topography, Voyages and Travels, &c.	4,966	2,783	454	8,203
Periodical and Serial Literature......	13,421	......	......	13,421
Jurisprudence	2,286	642	48	2,976
Theology, Moral and Mental Philosophy, and Education	3,101	1,059	65	4,225
Poetry and drama...................	1,696	542	69	2,307
Miscellaneous Literature and Collected Works............	3,973	4,089	237	8,299
Works of Reference and Philology..	3,748	......	......	3,748
Patents	......	4,355	......	4,355
Duplicates and unbound volumes ...	1,200	......	......	1,200
Pamphlets	2,689	......	......	2,689
Books for the Blind	......	567	......	567
Total Number of Volumes ...	51,129	22,012	2,821	75,962

Popularity of Library.

The popularity of the Free Public Library is clearly proved by the number of persons availing themselves of the privileges which it affords. The increase has been very regular, as will be seen in the following statement showing the number of visitors to the library, rising from 59,786, in 1870, to 168,685, in 1886, 65,255 of whom were visitors at the lending branch. The figures for 1886 are given by way of comparison with those of 1870, for, although the visitors to the lending branch in 1887 increased to 69,709, the total visitors only numbered 139,203, owing to the Reference Library being closed for three months.

Number of readers.

1869 (three months—1 Oct. to 31st Dec.)	17,006
1870	59,786
1871	60,165
1872	48,817
1873	76,659
1874 (eleven months)	57,962
1875	66,900
1876	72,724
1877 (Lending Branch first opened)	124,688*
1878	117,047
1879 (Exhibition open)	152,036
1880	134,462
1881	136,272
1882 (eleven months)	133,731
1883	155,431
1884 (eleven months)	161,877
1885	165,715
1886	168,685
1887	139,203*

*Reference Library closed from 1st June to 31st August, for moving.

During 1886 and 1887, considerable extensions were made to the premises of the Free Public Library, which had become much too small for the accommodation of the public, and the proper housing of the books. It was at length decided to pull down the old building in Macquarie-street, and a contract was made about the middle of last year for rebuilding a large portion of the Library at a cost of £10,455. This work is still in progress, and when the new building is completed, the establishment will be one of the most convenient in Australia. The sum expended on alterations and extensions during 1887 amounted to £4,174.

Cost of maintaining library.

The institution forms a separate department, under the control of the Minister of Public Instruction, and its cost to the State, during 1887, was, in addition to the amount for building—

	£	s.	d.
Salaries	£4,199	3	4
Maintenance	867	0	0
Purchase of Books	2,835	9	9
Total	£7,901	13	1

The following table gives a summary of the operations of the Library during the year 1887, as well as the number of books found on its shelves.

Operations of the Free Public Library for the year 1887.

	Cost of Purchase.	Amount of Aid from Government, exclusive of Salaries and Maintenance.		Estimated value of Volumes, &c., presented as Donations and under Copyright Act.				Number of Volumes and Pamphlets in the Library.	Number of Visits during the year.
		Prior to 1887.	During 1887.	Prior to 1887.		During 1887.			
	£ s. d.	£ s. d.	£ s. d.	No.	£ s. d.	No.	£ s. d.		
Reference Library ...	5,570 12 5	36,939 4 11	2,186 7 11	4,823	2,141 9 0	313	28 13 6	51,129	69,494
				*239	45 9 4	*95	*46 10 2		
Lending Branch	....	4,928 7 5	440 9 10	27	3 0 0	...	.. ..	22,012	69,709
Country Libraries—Loans of Books, in boxes *only*	....	1,990 3 4	208 12 0	... ..	....	...	....	2,821	......
Total	5,570 12 5	43,857 15 8	2,835 9 9	5,089	2,189 18 4	408	75 3 8	75,962	139,203

* Under Copyright Act.

National Art Gallery.

The National Art Gallery was first instituted in 1871 in connection with the New South Wales Academy of Art. It was reopened as the National Art Gallery in 1880, and is now situated in the Outer Domain, in a convenient and well-lighted building. It contains an excellent collection of paintings and statuary comprising some of the most famous works of the best modern artists of the old world, and includes several very valuable gifts from private persons. Like the other national institutions of New South Wales, the Gallery is open on Sundays as well as week days, and on the former and on public holidays the attendance is especially numerous. During 1887 it was visited by 177,342 persons, which number, however, shows a decrease of over 43,000 on the attendance of the previous year. During 1887 the expenditure on this institution was as follows :—

	£
For buildings	1,000
For works of art	3,326
For maintenance	924
For salaries	893
Total cost to the State	£6,143

Technological Museum.

The Technological Museum is also situated in the Outer Domain, in the Agricultural Hall, where it was removed on the destruction of the Garden Palace by fire. This museum was instituted at the close of 1879 on the initiative of the Trustees of the Australian Museum; but the whole collection of some 9,000 specimens was totally lost in 1882 by the fire above-mentioned. Strenuous efforts were at once made to replace the lost collection, and in December, 1883, the museum was again opened to the public, and now contains interesting and valuable series of specimens illustrating the various stages of many manufactures, and an excellent collection of animal and vegetable products. The popularity of this institution may be gathered from the fact that 40,217 persons visited it during 1887. The cost to the State amounted to £3,700, distributed as follows :—

	£
For maintenance and additions	1,690
For specimens, models, &c.	1,089
For salaries	921

RELIGION.

In the eyes of the State all religions are equal in New South Wales, but during the early days of the Colony such was not the case. New South Wales was originally essentially a Crown Colony, and the Church establishment, as it existed in England, was naturally transplanted to these shores. Ecclesiastical monopoly, nevertheless, only continued for a short time, and the countenance and support of the State were eventually extended, during the governorship of Sir Richard Bourke, to the principal religious bodies which then existed—the Anglicans, Roman Catholics, Presbyterians, and Wesleyan Methodists. To the clergy of each of these denominations the Government granted what has usually been denominated State aid, which continued long after the old political system had passed away and had been replaced by Responsible Government. In 1862, however, an Act was passed limiting future payments to the clergy then actually in receipt of State aid. In the year following the passing of this Act, the claims on the Government amounted to £32,372, and were thus distributed :—

Equality of all religions.

State aid to religion.

Church of England	£17,967
Roman Catholic Church	8,748
Presbyterians	2,873
Wesleyan Methodists	2,784

Year by year the sum payable has been lessening, owing chiefly to the death of clergymen in receipt of State aid, so that in 1887 the payment by the State was at the rate of £10,193 per annum, as follows :—

Church of England	£5,791
Roman Catholic Church	2,800
Presbyterians	702
Wesleyan Methodists	900

Payments on account of State aid.

The payments to the clergy of different denominations are given below, for each year since 1863. It will be observed that in several years the amounts paid were less than in succeeding years. This anomaly is due to the temporary stoppage of the stipends of clergymen who were absent from the Colony.

Amounts paid to the Clergy since the Abolition of State Aid to Religion.

Year.	Church of England.	Roman Catholic Church.	Presbyterian.	Wesleyan Methodist.	Total—All denominations.
	£	£	£	£	£
1863	17,967	8,748	2,873	2,784	32,372
1864	17,519	8,234	2,614	1,179	29,546
1865	14,111	7,430	3,090	1,572	26,203
1866	13,977	7,446	2,852	1,572	25,847
1867	13,255	7,275	2,852	1,572	24,954
1868	12,767	7,083	2,847	1,965	24,662
1869	12,370	6,796	2,487	1,573	23,226
1870	12,386	6,583	2,180	1,573	22,722
1871	10,994	6,417	1,942	1,572	20,925
1872	12,187	6,034	1,822	1,484	21,527
1873	11,236	5,804	1,702	1,373	20,115
1874	11,224	5,962	1,560	1,373	20,119
1875	10,725	5,608	1,625	1,373	19,331
1876	10,213	5,300	1,778	1,029	18,320
1877	9,803	5,024	1,702	1,716	18,245
1878	9,180	4,550	1,702	1,029	16,461
1879	8,238	4,357	1,702	1,372	15,689
1880	7,739	3,892	1,702	1,716	15,049
1881	7,412	3,729	1,689	992	13,822
1882	6,558	3,487	1,636	1,455	13,136
1883	6,082	3,246	1,407	1,324	12,059
1884	5,975	3,025	1,177	1,222	11,399
1885	6,041	3,000	1,052	1,136	11,229
1886	5,791	3,000	902	1,050	10,743
1887	5,791	2,800	702	900	10,193

The number of persons entitled to State aid during 1887 was 60—33 Church of England, 16 Roman Catholics, 5 Presbyterians, and 6 Wesleyan Methodists.

Adherents of each religion.

The number of members of each religious body was estimated at the census of 1881, and the relative proportions of each of the larger denominations were found to differ but slightly from those shown by the previous census. Distributing the population on the basis of the census of 1881, the estimated number of adherents to each of the denominations, with the clergy registered for the celebration of marriages was during 1887 as follows.

Denomination.	Clergy.	Adherents.	Proportion of adherents to clergy.
Church of England	324	474,528	1,464
Roman Catholic	272	288,159	1,059
Presbyterian	142	100,746	709
Wesleyan, and other Methodist	168	89,483	532
Congregational	64	19,920	311
Baptist	30	10,221	340
Other Protestant	35	20,644	589
Unitarian	1	1,252	1,252
Hebrew	4	4,589	1,147
Others	......	33,377	....
Total	1,040	1,042,919	1,002

Church attendance.

The number of persons attending divine service on Sundays averaged 284,966 for the year 1887. This number represents the attendance of adults only; if school children be included the number would be 392,298. When the sparseness of the population in some parts of the country is considered, the church attendance will appear very large, and though apparently less than found in the colony of Victoria, is proportionately much larger than in England.

The figures showing the attendance at Divine Service on Sundays for each of the principal denominations are given hereunder. Sunday school children are not included.

Denomination.	Number of distinct persons attending Sunday services.
Church of England	73,210
Roman Catholic	73,442
Presbyterian	30,400
Wesleyan Methodist	48,691
Other Methodists	8,305
Congregationalist	12,911
Baptist	4,635
Salvation Army	29,840
Others	3,532
Total	284,966

Nearly all the religious bodies maintain Sunday schools. The attendance of children at these schools shows a considerable

Sunday schools maintained by all denominations.

increase during 1886 over that of the previous year. Some part of this increase is merely apparent, and is due to the greater completeness in the returns, but no small portion of the improved attendance results from the extension of school accommodation in various parts of the country. The attendance of children at the Sunday schools of the leading denominations, with the number of schools and teachers during 1887, was—

Denomination.	No. of schools.	Number of teachers.			Average number of scholars.		
		Male.	Female.	Total.	Male.	Female.	Total.
Church of England ...	517	1,142	2,193	3,335	15,049	18,617	33,666
Roman Catholic	382	368	1,084	1,452	10,644	13,953	24,597
Presbyterian	214	547	876	1,423	4,983	5,974	10,957
Wesleyan Methodist	308	1,227	1,354	2,581	9,876	11,521	21,397
Other Methodists.....	69	418	332	750	2,900	3,258	6,158
Congregational	70	362	403	765	3,172	3,809	6,981
Baptist	28	152	133	285	996	1,113	2,109
Other denominations	26	88	70	158	713	754	1,467
Total	1,614	4,304	6,445	10,749	48,333	58,999	107,332

Attendance at Sunday school

The attendance given above is extremely high, amounting as it does to nearly 56 per cent. of the total children between the ages of 7 and 15 years, at which ages children generally attend Sunday schools. The number of Sunday schools and teachers, and the attendance at Sunday schools during each year since 1876 was—

Year.	Number of schools.	Number of teachers.	Average attendance.		
			Male.	Female.	Total.
1876	1,058	7,099	27,443	31,394	58,837
1877	1,121	7,615	28,943	33,094	62,037
1878	1,196	8,063	29,877	34,699	64,576
1879	1,285	8,491	31,802	37,710	69,512
1880	1,340	9,027	33,304	39,089	72,393
1881	1,405	9,289	34,950	40,722	75,672
1882	1,318	9,190	34,393	41,334	75,727
1883	1,441	9,793	35,205	42,610	77,815
1884	1,461	9,426	35,883	43,202	79,085
1885	1,513	9,986	37,991	46,531	84,522
1886	1,596	10,759	47,307	56,354	103,661
1887	1,614	10,749	48,333	58,999	107,332

PART XX.

Defence.

NEW South Wales was garrisoned with British troops from the time of its foundation as a colony until the year 1870. For part of the years 1870 and 1871 the Colony was without regular troops, its defence being entirely in the hands of the volunteer force. In 1871 a local regular defence force was enrolled, comprising one battery of artillery and two companies of foot, the latter, however, were disbanded in the following year. The permanent artillery was strengthened by a second battery in 1876, and by a third in 1877. To supplement the imperial troops in Australia a volunteer force was enrolled in 1854, Great Britain being then at war with Russia. The Act authorizing the establishment of the force was 18 Vic. No. 8. The original strength of this corps was one troop of cavalry, one battery of artillery, and six companies of foot, but with the termination of the Crimean war this force practically ceased to exist. A few years later in 1860 the volunteer movement was revived, and a second force enrolled, consisting of one troop of mounted rifles, three batteries of artillery—two stationed at Sydney, and one at Newcastle—and twenty companies of infantry, fourteen of which were recruited from Sydney and its suburbs, and six from the country districts. The total strength of all arms was about 1,700 men. In 1868 the force was reorganized under the Volunteer Regulation Act, passed towards the close of the previous year. In 1873 a further reorganization of the volunteer troops of the Colony took place upon a plan drawn up by Sir William Jervois, and in 1885 an additional force of reserves was enrolled.

Imperial garrison.

Volunteer movement.

Land forces of the Colony.

The land forces of the Colony comprise three distinct branches, the Permanent Force, Volunteers, and Reserves. The Permanent Force consists entirely of artillery; the Volunteers consist of artillery, engineers, torpedo and signalling corps, infantry and naval brigade; while the Reserves, which are also volunteer corps, comprise cavalry, artillery, and infantry.

Permanent artillery.

The Permanent Force comprises a general staff of 12 commissioned and 14 non-commissioned officers, and 13 commissioned officers of artillery, 32 non-commissioned and 326 rank and file, the whole force thus numbering 397. The rates of pay of the regular artillery, apart from the permanent staff, were for the year 1887:—Colonel, £500; lieutenant-colonel, £450; majors, £378; captains, £256; lieutenants, £238; staff-surgeon, £350; surgeon, Newcastle, £75. Sergeants from 4s. to 10s. per diem; corporals, 3s. 4d. per diem; bombardiers, 3s. 2d. per diem; trumpeters, 2s. 3d. per diem; master gunners, 7s. to 10s. per diem; gunners, 2s. 3d. per diem; and the total cost was £44,016. The artillery man the batteries guarding the harbours of Sydney, Botany Bay, and Newcastle, mount guard at the vice-regal residence, and perform such other duties as usually appertain to a garrison. The troops are a fine body of men, the minimum height at which recruits will be accepted is 5ft. 7in.

Volunteer force.

As already stated, the Act authorizing the establishment of a volunteer force was assented to on the 24th July, 1854, and the Act continued with various modifications in operation until 1878, when the land forces of the Colony were remodelled on their present basis. The volunteer force was retained; but a system of payment was introduced in lieu of the indirect remuneration by a land grant of 50 acres for five years continuous efficiency which formerly obtained. The ages between which recruits for the volunteer force are taken are 18 and 40 years. The volunteer force of the Colony consists of four arms in addition to the permanent staff, and the total strength of the force is 2,740 men of all ranks. The staff numbers 66, of whom 57 belong to the permanent staff, 5 are medical officers, and 4 honorary chaplains.

The artillery is distributed in five districts, the strength of each being— Artillery.

Sydney	268
Newcastle	59
Wollongong	58
Bulli	53
Bega	55
	493

The engineers are located in Sydney, and number 101 men of all ranks, viz., 4 commissioned officers, 15 non-commissioned officers, and 82 sappers. The torpedo and signalling corps is also located in Sydney; it comprises 11 commissioned officers, 29 non-commissioned officers, and 106 privates, or 146 of all ranks. Engineers.

The infantry forces are distributed over four districts, the strength of each district being— Infantry.

Sydney	545
Western	632
Northern	489
Southern	268
	1,934

This arm comprises 98 commissioned officers, 255 non-commissioned officers, and 16 non-commissioned officers on the permanent staff, and 1,565 privates and buglers.

The naval brigade dates back to 1863, and is intended to operate chiefly for coastal defence, but as at present constituted it is a light artillery land force. Its strength is 563 men of all ranks, 506 stationed in Sydney and 57 in Newcastle. Naval Brigade.

To rank as an efficient, every volunteer must serve for nine days continuously in camp, and for three detached days during the year. The artillery are also required to attend 16 half-day parades, including shot practice. The engineers must attend, in addition to the continuous training, 12 half-day parades, and 10 night drills; the torpedo corps 22 half-day parades, and the infantry 13 half-day parades and a course of musketry. Pay is granted to all ranks according to a sliding scale. Gunners, sappers, and privates receive 10s. for each day of continuous training, and a Efficiency—how secured.

like sum for each detached day's parade; for a half-day parade 5s. is paid, and for a night parade 2s. In addition to these sums, every volunteer passing through the musketry course, and qualifying as a marksman, is granted 15s.; if as a first-class shot, 10s.; and if as a second-class shot, 5s.; with a bonus of £2 if he qualifies at the end of the year as an efficient.

Volunteer reserves.

Besides the Volunteer force described above, which is partially paid, there is an unpaid Volunteer reserve, with a strength of 2,352 men of all ranks. The reserve force comprises three arms, the strength of each of which is—

Cavalry	411
Artillery	112
Infantry	1,829
	2,352

Cavalry.

The cavalry provide their own horses and equipment, their uniform and arms being provided by the Government. The force is distributed through three districts:—

Sydney	45
Southern District	97
Northern District	269
	411

The metropolitan force is armed with lances, while the country corps are equipped as ordinary light cavalry. The artillery reserves are stationed at Sydney only, and consist of four companies comprising 112 men. The infantry is distributed through four districts, the strength of each district being:—

Sydney	390
Southern	737
Western	121
Northern	581
	1,829

Naval Volunteer Artillery.

Besides the reserves above enumerated there is a force called Naval Volunteer Artillery, which was enrolled in 1882. Its duty is to man and work any gunboat available for this service, or serve as field artillery if other service is not available. The officers and men provide their own uniforms, while the Government supply arms, and allow an annual subvention of £500 for military instruction and ordinary expenses incidental to the working of such a corps.

The reserve infantry is provided with arms and equipment, and each company is granted an allowance for incidental expenses, &c.

Summary of Forces.

The land forces of the Colony comprise 6,052 men, of whom 397 form the general staff and permanent artillery, 3,303 volunteers and naval brigade, which are partially paid, and 2,352 reserves. Dividing the force into the various arms the strength of each is :—

General and Permanent Staff	92
Cavalry	411
Artillery	1,539
Engineers	101
Torpedo and Signalling	146
Infantry	3,763
	6,052

Cost of Defence.

The expenditure by the State on defence works and the Permanent and Volunteer Military forces, distributed as follows :—

	£
General Staff	4,557
Military Instructors	3,386
Artillery Force	44,016
Works of Defence	971
Volunteer Force	104,184
Total	£157,114

The artillery guns possessed by the Colony number 181, of which 133 are mounted, 23 are of brass, and 158 of iron. The calibre of guns varies from 3-inch, being that of the 9-pounders up to 10-inch, the calibre of the 25-ton muzzle-loading rifled guns mounted for harbour defence.

Naval Station.

New South Wales has no navy of its own, the defence of its coast being in the hands of the British ships on the Australian station. Sydney is the headquarters of the fleet, and ranks as a first-class naval station ; extensive repairing yards and storehouses are being constructed for the accommodation of the ships of war. There are stationed in these waters ten vessels, whose armament and crews are as follows :—

Imperial War Vessels on Station.

Name.	Class.	Material of hull.	Displacement.	Indicated horse-power.	Draught of water extreme.	Length.	Beam.	Armour.			Backing.	Armament.		Speed.	Coal endurance.	
								Side.	Bulk-head.	Turret.		Guns.	Fish torpedo dischargers.		Coal that can be carried in bunkers.	Distance that can be steamed at 10 knots' speed.
			tons.		ft. in.	ft. in.	ft. in.	in.	in.	in.	in.			knots.	tons.	knots.
*Nelson ..	Armoured cruiser, 2 screws.	Iron, zinc sheathed.	7,630	6,640	26 6	280 0	60 0	9 & 6	9, 8, 6	9 Conning tower.	13 to 10	4 18-ton M.L.R., 8 12-ton M.L.R., 6 Q.F., 16 M., 4 L.	21 Car.	14·41	1,150	5,200
Calliope ..	Corvette (deck protected amidships).	Steel, wood, and copper sheathed.	2,770	4,020	19 11	235 0	44 6	....	....	....	....	4 6-in. 5-ton B.L.R., 12 5-in. 36-cwt. B.L.R., 10 M., 2 L.	21 Car.	13·75	550	4,000
*Diamond	Corvette	Wood	1,970	2,140	18 0	220 0	37 0	....	....	....	....	12 64-pdr. M.L.R., 6 M., 2 L.	....	12·56	270	2,060
†Egeria ..	Sloop	Composite.	940	1,010	14 3	160 0	31 4	....	....	....	....	4 20-pdr. B.L.R., 2 M., 1 L.	....	11·30	100	1,000
†Myrmidon.	Gun vessels..	Wood	877	720	....	....	....	....	....	....	....	....	....	....	....	....
Opal	Corvette	Composite.	2,120	2,190	18 7	220 0	40 0	....	....	....	....	12 64-pdr. M.L.R., 6 M., 2 L.	....	13·13	270	2,250
Rapid	Corvette (partial deck protected).	Composite.	1,420	1,400	15 9	200 0	38 0	....	....	....	....	2 6-in. 81-cwt. B.L.R. 10 5-in. 38-cwt. B.L.R., 4 M., 1 L.	....	13·00	400	6,000
Lizard	Gunboat	Composite.	670	1,000	....	....	....	....	....	....	....	6 4-in. B.L.R. (25-cwt.), 4 M.	....	13·00	....	....
Swinger ..	Gunboat	....	430	520	....	....	....	....	....	....	....	4	....	....	....	....
Raven	Gunboat	....	465	360	....	....	....	....	....	....	....	4	....	....	....	....
†Dart.....	Yacht	Wood	470	200	....	....	....	....	....	....	....	2	....	....	....	....
Orlando ..	Armoured cruiser, 2 screws.	Composite, steel belted.	5,000	8,622	22 6	300 0	56 0	10	16	12 Conning tower.	6	2 92-in. 22-ton B.L.R. 10 6-in. 22-ton B.L.R. 16 Q.F., 7 M., 2 L.	4 L.C., 2 F. Tu.	19·25	900	8,000
Royalist..	Corvette (deck partially protected).	Composite.	1,420	1,510	15 9	200 0	38 0	....	....	....	....	2 6-in. 81 cwt. B.L.R. 10 5-in. 38-cwt. B.L.R., 4 M.	....	13·00	400	6,000

* Relieved by Orlando and Royalist respectively. † Surveying service. M.L.R., Muzzle-loading rifled guns; Q.F., Quick-firing guns; M., Machine guns; L., Light guns under 15 cwt.; B.L.R., Breech-loading rifled guns; Car., Carriages; L.C. & F. Tu., Launching carriages or fixed tubes for Whitehead torpedoes.

Australian Squadron to be increased.

It is proposed to materially increase the strength of the Australian squadron, and an undertaking has been entered into by all the colonies, with the exception of Queensland, for the payment of a *pro râta* subsidy for the maintenance of the fleet. The total subvention to be paid by all the colonies amounts to £91,000 per annum, and the contribution of New South Wales would amount to £26,740 15s. per annum. Under the provision of the "Australasian Naval Force Act," which was assented to on 20th December, 1887, the squadron will be constituted on the following basis:—The fleet is to consist of five fast cruisers, and two torpedo gunboats, as represented by the "Archer" (improved type) and "Rattlesnake" classes of the British navy; of these, three cruisers and one gunboat will always be kept in commission, the remainder being held in reserve in Australasian ports, but ready for commission whenever circumstances may require their use. The agreement is to be for a period of ten years, and only then terminate if notice be given two years previously, or at the end of any subsequent year, and then two years after such date. The vessels will be built by the British Government, but the Australasian Colonies will pay the interest on their prime cost at the rate of 5 per cent., provided such payment does not exceed £35,000. The colonies are also to pay the actual charge for maintenance as mentioned above. On the termination of the agreement, these vessels will remain the property of the Imperial Government. The strength of the fleet already in Australian waters will be maintained. The vessels specified in the agreement between Great Britain and the colonies are to be in addition to these. The Australasian squadron will be commanded by the Admiral on the Australian Station, whose headquarters are in Sydney, where a residence is provided for him by the Colony.

Fortifications.

Extensive fortifications have been erected at various important points on the coast. Sydney has two lines of defence, and is deemed almost impregnable; Botany Bay forming the southern defence of Sydney is strongly fortified, as also is Newcastle, the great coal port of the Colony. In addition to the land defences of Sydney, there are stationed in the harbour four torpedo boats of the first-class, manned and worked by the torpedo corps already described.

PART XXI.

Local Government.

Municipalities Act.

PRIOR to the year 1842, municipal institutions did not exist in the Colony. In the year named, however, the city of Sydney was granted municipal government, the first election for aldermen and councillors taking place on the 9th November, and the boundaries then assigned to the city are those which it now holds. The necessity for an extension of the system of municipal government to some of the suburbs of Sydney and to the chief country towns soon became apparent; but it was not until 1858 that a comprehensive measure was passed. Under the provisions of this Act thirty-five districts were incorporated, all of which exist to this day. In 1867 the original Act was amended, and the present enactment, known as the Municipalities Act of 1867, became law. The terms of the Act are extremely liberal, but no provision is made for the compulsory incorporation of any district, however populous. Under the Act of 1867 it is provided that any contiguous districts having an area of not more than 9 square miles, and a population of not less than 1,000, may be incorporated as boroughs; and districts whose area does not exceed 50 square miles, and whose population numbers not less than 500 persons, may be formed into municipal districts. Under the operation of this and former Acts 120 districts have been incorporated, 55 being entitled boroughs, and 68 municipal districts, the other incorporated district being Sydney, which is styled a municipality. The area thus incorporated is not large, embracing only 1,999½ square miles, equal to 0·64 per cent. or $\frac{1}{156}$ of the total area of the Colony; but the population included therein is not less than 575,264, or 55·16 per cent. of the whole population of New South Wales.

Privileges of municipalities.

The powers and privileges of the municipalities, as set forth by the several Acts, are very extensive. Apart from the ordinary work of maintaining the thoroughfares, the corporations are entitled to construct sewerage, water supply, and gasworks, and to levy rates in respect to these; to make and enforce by-laws for the maintenance of public health and the abatement of nuisances; to establish free public libraries and free infant schools, as well as to perform many other acts for the material and sanitary advantage of their residents.

Assessment.

The councils are empowered to raise revenue by rates amounting to not more than 1s. in the £ for ordinary purposes, and not more than 1s. in the £ for special purposes. The property in a municipality is valued or assessed every year, and for this purpose assessors are appointed. After the valuation has been made, a rate is struck upon the annual value of all property liable to assessment, viz., upon nine-tenths of the fair average rental of all buildings and cultivated lands, or lands which are, or have been, let for pastoral, mining, or other purposes, whether such land or buildings be actually in occupation or not, and at the rate of 5 per cent. upon the capital value of the fee-simple of all unimproved land. The rate for general purposes is 1s. in the £ on the assessed annual value, while the special rates, where such exist, vary from 3d. to 10d. in the £.

Endowment.

In order to aid municipalities in the difficulties surrounding their inception, the Act of 1867 provides for endowments being granted for a period of fifteen years from their incorporation. In each of the first five years after incorporation, every municipality is entitled to a sum equal to, but not exceeding, the whole amount actually raised by rates or assessments and subscriptions paid during the past year. In each of the next succeeding five years a sum equal to, but not exceeding, one moiety; and in each of the next succeeding five years a sum equal to one-fourth of the amount so paid. After the expiry of these fifteen years, the assistance which municipalities may demand from the Government ceases.

The flourishing state of the revenue during many years enabled the Government to grant aid to municipalities beyond what the law directed, and during some years an endowment equal to the assessment was paid to them.

Value of ratable property.

The value of property assessed for municipal purposes during 1887 was returned by the various local authorities at £105,873,485; but this amount somewhat understates the actual capital value, as much of the unimproved land, especially in suburban and country districts, is returned at far below its real worth. Taking all municipalities, this understating amounts to, at least, 10 per cent.; so that the actual value of property within incorporated districts is not less than £116,460,833. If, however, the nominal capital values as returned by the municipal authorities themselves are taken, the capital and annual value of property in all districts during the past six years were as under.

Annual and Capital Value of Property in Boroughs and Municipalities.

Year.	City of Sydney.	Suburbs of Sydney.	Country Municipalities.	Total.
	£	£	£	£
1882—Annual value	1,655,952	1,314,919	1,064,560	4,035,431
Capital value	29,807,140	19,749,107	11,697,199	61,253,446
1883—Annual value	1,838,642	1,449,947	1,266,502	4,555,091
Capital value	36,772,840	20,676,070	14,425,195	71,874,105
1884—Annual value	1,979,772	1,690,109	1,524,218	5,194,099
Capital value	39,595,440	23,046,854	17,661,067	80,303,361
1885—Annual value	2,035,235	1,935,884	1,713,578	5,684,697
Capital value	40,704,700	29,410,787	21,828,805	91,944,292
1886—Annual value	2,096,476	2,289,685	1,727,951	6,114,112
Capital value	41,929,520	32,960,620	21,657,828	96,547,968
1887—Annual value	2,131,026	2,501,904	1,895,591	6,528,521
Capital value	42,529,525	36,644,629	26,699,331	105,873,485

Increase in five years.

The increase shown in this table is very considerable. From 1882 to 1887 the annual value has risen from £4,035,431 to £6,528,521, or at the rate of 10·12 per cent. per annum, while the capital value has advanced from £61,253,446 to £105,873,485, or at the rate of 11·57 per cent. per annum. Part of this increase is due to an increase in the number of districts incorporated; but when an allowance is made for these it will still be found that the increase has been very satisfactory.

The amount of increase during the five years will be found in the following table :—

Municipalities.	Increased annual value during five years.		Increased capital value during five years.	
	Total.	Per cent.	Total.	Per cent.
	£		£	
City of Sydney	475,074	28·69	12,722,385	42·68
Suburbs of Sydney	1,186,985	90·26	16,895,522	85·55
Country Municipalities	831,031	78·06	15,002,132	128·25
Total	2,493,090	61·78	44,620,039	72·84

Position of Sydney amongst cities of the empire.

The growth of the city and suburbs has been marvellous, and Sydney now stands as the second city of the British Empire, as estimated by the annual value of its ratable property, Melbourne ranking third. The annual value of property in Sydney during 1886 was £4,386,161, and in 1887, £4,632,930; the annual value of Melbourne and suburbs during 1887 was £4,128,895. The following are the annual values of the principal British cities for 1886 :—

London (Metropolitan Board of Works)	£28,920,537	Leeds	£1,177,656
Liverpool	3,381,501	Sheffield	1,063,483
Glasgow	3,061,075	Bristol	975,979
Manchester	2,411,509	Bradford	952,471
Birmingham	1,621,701	Nottingham	909,556
		Newcastle-on-Tyne	806,113

Capital value of each municipality

The capital value of ratable property in all municipalities, and the assessed annual value, together with the amount of income, is shown in the following table.

Capital and Annual Value of Ratable Property and Income of Municipalities and Boroughs during 1887.

Incorporated Districts.	Estimated Capital Value of Ratable Property.	Annual Value.	Revenue, exclusive of Loans.		
METROPOLITAN.					
	£	£	£	s.	d.
Municipality of Sydney	42,529,525	2,131,026	336,066	6	1
Boroughs.					
Alexandria	805,000	62,000	5,313	5	5
Ashfield	2,400,000	124,806	11,752	15	3
Balmain	3,194,224	185,423	21,931	8	8
Burwood	650,000	79,477	7,044	8	5
Camperdown	479,581	40,919	5,932	8	7
Darlington	290,140	29,014	2,669	0	4
The Glebe	2,045,400	163,632	13,516	16	5
Marrickville	1,050,680	105,068	10,080	7	10
Newtown	1,729,400	148,700	13,870	8	5
Paddington	3,200,000	172,108	11,970	19	9
Petersham	1,238,920	98,370	8,405	19	0
Randwick	1,031,712	82,537	6,602	5	0
Redfern	1,672,460	168,627	18,667	19	3
St. Leonards	2,383,327	101,137	7,632	4	11
St. Leonards East	1,000,000	73,732	6,919	8	1
Victoria	858,190	42,809	4,653	14	2
Waterloo	785,202	65,441	4,737	3	11
Waverley	1,801,430	103,658	9,787	6	4
Willoughby, North	1,108,420	54,050	2,810	19	9
Woollahra	2,347,367	129,092	12,547	4	7
Total £	30,071,453	2,030,600	186,846	4	1
Municipal Districts.					
Botany West	754,810	47,137	4,065	5	9
Canterbury	458,275	36,495	4,397	15	4
Concord	419,375	27,484	2,265	8	2

Incorporated Districts.	Estimated Capital Value of Ratable Property.	Annual Value.	Revenue, exclusive of Loans.		
METROPOLITAN *(continued).*					
Municipal Districts.					
	£	£	£	s.	d.
Five Dock	600,000	26,955	1,329	14	1
Hurstville	881,390	43,753	1,176	18	8
Kogarah	325,110	32,420	5,181	1	9
Leichhardt	980,000	117,145	9,996	3	7
Manly	807,092	47,959	9,897	3	0
Macdonaldtown	483,279	34,036	3,785	9	1
Strathfield	435,730	28,015	3,228	15	7
St. Peters	428,115	29,905	2,488	14	3
Total £	6,573,176	471,304	47,812	9	3
Total, Metropolitan £	79,174,154	4,632,930	570,724	19	5
COUNTRY DISTRICTS.					
Boroughs.					
Albury	420,000	41,060	5,067	5	4
Armidale	250,000	25,000	2,090	16	7
Bathurst	1,255,380	62,769	7,648	18	0
Central Illawarra	230,000	23,000	1,439	11	7
Cootamundra	188,580	16,758	1,791	19	3
Cudgegong	446,985	22,552	1,229	6	6
Goulburn*	937,354	79,065	7,702	9	9
Granville	880,000	42,008	3,661	15	0
Grafton	600,000	34,140	3,099	5	3
Gosford	71,566	5,942	616	6	0
Hill End	28,239	2,823	174	5	3
Hunter's Hill	590,194	28,067	2,310	15	3
Junee	44,032	12,394	657	3	7
Kempsey	387,200	19,360	2,803	19	0
Kiama	450,000	25,000	1,573	13	3

---

* No return; figures for 1886 inserted.

Incorporated Districts.	Estimated Capital Value of Ratable Property.	Annual Value.	Revenue, exclusive of Loans.		
COUNTRY DISTRICTS *(continued).*					
Boroughs.					
	£	£	£	s.	d.
Maitland East	225,000	20,264	2,386	19	0
Maitland West	648,320	59,831	5,151	4	3
Morpeth	115,857	8,522	1,139	7	8
Mudgee	345,000	21,910	1,475	16	10
Narrabri	156,048	11,703	1,088	5	9
Narrandera	136,000	12,432	1,323	13	9
Newcastle	1,428,310	157,005	27,446	13	10
Orange	461,940	32,536	4,125	6	9
Parramatta	1,020,575	81,646	11,205	0	11
Plattsburg	270,500	27,050	3,287	5	3
Queanbeyan	113,887	8,184	967	4	0
Richmond	147,728	7,386	782	16	9
Shellharbour	172,450	13,796	1,007	15	1
Singleton	152,840	15,284	1,259	0	0
Tamworth	344,251	30,522	3,860	19	5
Wagga Wagga	840,920	42,046	3,680	12	0
Wallsend	324,500	32,450	2,960	13	11
Windsor	900,000	12,910	1,031	12	9
Wollongong	670,000	34,000	2,180	14	2
Young	297,336	21,614	1,942	7	10
Total	15,550,992	1,091,029	120,170	19	6
MUNICIPAL DISTRICTS.					
Country.					
Adamstown	250,000	9,000	1,129	7	5
Ballina	105,032	5,456	1,314	17	2
Balranald	351,000	35,000	999	7	1
Bega	326,948	20,306	2,654	3	2
Blayney	104,286	9,529	1,821	17	11
Bourke	401,142	32,235	2,314	9	10

MUNICIPAL DISTRICTS *(continued).*

Country.

Incorporated Districts.	Estimated Capital Value of Ratable Property.	Annual Value.	Revenue, exclusive of Loans.		
	£	£	£	s.	d.
Bowral	250,671	13,897	2,247	11	3
Broughton Creek and Bomaderry	325,840	8,146	466	12	1
Broughton Vale	140,000	2,937	185	4	11
Campbelltown	200,000	14,754	1,840	16	2
Carcoar	112,000	5,690	631	13	5
Carrington	198,052	13,614	1,153	7	7
Casino	122,616	9,810	1,654	9	7
Central Shoalhaven	110,000	4,462	402	6	6
Cobar	101,825	8,478	567	19	2
Cooma	162,917	13,487	849	7	11
Coonamble	133,906	9,970	856	9	9
Deniliquin	193,582	22,774	5,479	11	9
Dubbo	273,000	25,135	2,932	3	8
Forbes	243,687	20,970	2,212	16	4
Gerringong	190,000	9,000	1,162	19	5
Glen Innes	240,500	24,050	3,453	13	9
Grenfell	139,290	6,964	916	2	11
Gulgong	83,000	8,100	591	1	10
Gunnedah	85,700	7,690	678	8	0
Hamilton	450,039	36,303	2,555	9	10
Hay	317,777	26,850	3,733	16	10
Inverell	150,000	15,000	1,363	6	6
Lambton	187,271	13,309	775	18	4
Lismore	278,178	19,008	3,907	17	0
Liverpool	241,500	24,150	1,954	10	6
Merewether	410,000	26,660	3,211	17	4
Molong	130,000	8,178	967	1	0
Musclebrook	90,054	7,504	863	7	3
North Illawarra	200,000	9,000	761	8	9
Nowra	80,000	8,000	1,330	8	6
Numba	46,000	5,072	365	10	11

Incorporated Districts.	Estimated Capital Value of Ratable Property.	Annual Value.	Revenue, exclusive of Loans.
MUNICIPAL DISTRICTS *(continued).*			
Country.			
	£	£	£ s. d.
Parkes	80,279	8,028	1,143 17 7
Penrith	530,000	24,000	1,248 10 9
Prospect and Sherwood	274,287	21,943	1,710 19 9
Raymond Terrace	56,910	6,308	652 18 1
Ryde	557,885	25,588	1,648 3 1
Silverton	160,000	15,042	1,022 0 0
South Singleton	104,968	4,808	586 2 10
Taree	80,000	3,946	464 4 2
Tenterfield	220,125	13,451	1,472 13 5
Tumut	86,210	8,621	182 18 1
Ulladulla	120,000	12,000	1,489 5 2
Ulmarra	198,[illegible]0	9,900	971 1 10
Uralla	64,620	4,992	505 15 0
Waratah	240,000	24,000	1,137 0 7
Wellington	89,490	8,949	762 2 1
Wentworth	110,524	9,300	868 0 0
Wickham	370,251	31,420	3,136 18 8
Wilcannia	214,850	19,778	4,243 11 8
Yass	164,127	16,000	1,099 2 6
Total	11,148,339	804,562	84,652 17 7
Total, Country Districts	26,699,331	1,895,591	204,823 17 1
Total, all Incorporated Districts	105,873,485	6,528,521	775,548 16 6

Municipal revenue.

The revenues of the various municipalities have fluctuated considerably from year to year, according to the amount of endowment paid by the Government.

City revenue.

The city revenue during 1887 amounted to £215,287 10s. 11d., which sum does not include the return from water and sewerage rates. The expenditure during the same period was £213 390 5s. 8d. The chief heads of revenue were—

	£	s.	d.
City rate	144,510	15	8
Fees and fines	3,362	2	3
Rents, tolls, and dues	24,998	4	1
Endowment	31,250	0	0
Miscellaneous	11,166	8	11
Total	£215,287	10	11

The expenditure comprised—

	£	s.	d.
Salaries	8,945	12	1
City improvements	140,627	18	3
Interest	13,021	12	4
Lighting	12,332	4	9
Markets	2,752	16	10
Town Hall Loan Fund	4,000	0	0
Town Hall Sinking Fund	3,650	0	0
Streets Loan Fund	12,000	0	0
Streets Loan Sinking Fund	6,700	0	0
Miscellaneous	9,360	1	5
Total	£213,390	5	8

Water fund.

The water fund, which was incorporated by Act of legislature, 43 Vic., No. 2, is administered separately from the city fund. The revenue on account of this fund was £78,018 5s. 2d., and the expenditure £78,770 6s. From the sewerage fund, which is also separately administered, the revenue derived was £42,760 10s., while the expenditure amounted to £39,173 15s. 1d. The total receipts of the Municipal Council of Sydney from all sources during the year 1887 was £336,066 6s. 1d., as against £316,075 15s. 2d. during the previous year; while the expenditure was £331,334 6s. 9d., as against £336,482 17s. 5d. in 1886. The revenue derived from water rates is obtained not only from the city, but also from a large suburban area; but the sewerage revenue is derived almost entirely from the city.

Sydney suburban revenue.

The revenue of the thirty-one suburban boroughs and municipalities during 1887 was £231,847 13s. 7d. The amount stated does not include the payments made by municipal residents for water supply, as this forms a payment to the City Council, and has already been included. The receipts under the various heads were—

	£	s.	d.
Ordinary rates	113,031	13	1
Lighting rate	28,967	2	5
Subscriptions	13,687	2	5
Endowment	40,480	0	2
Other sources	38,492	15	3
Total	£234,658	13	4

Taxation per head.

Omitting the amount of endowment received from Government, it will be found that the total from direct taxation was £194,179. The estimated rate per head of population was 17s. 3d. for the year, and £3 19s. 6d. for each ratepayer. The amount received from Government provided an addition to the revenue equal to 3s. 7d. per head of population. The ordinary rates yielded 82·75 per cent. of the total income, and the endowment 17·25 per cent.

Country municipal revenue.

The revenue of country boroughs and municipalities for the year 1887 was £204,823 17s. 1d., derived from the following sources:—

	£	s.	d.
Ordinary rates	83,206	19	5
Lighting and water rates	29,410	14	11
Subscriptions	2,550	13	4
Endowment	57,458	3	6
Other sources	32,197	5	11
Total	£204,823	17	1

Taxation per head.

Or, excluding endowments, the sum was £147,365 13s. 7d. from direct taxation, which represents a payment of 13s. 3d. per head from each resident, or £3 2s. 10d. from each ratepayer. The Government endowment was equivalent to 5s. 2d. per head of population. The ordinary rates yielded 72 per cent. of the total receipts, while the Government endowment amounted to 28 per cent.

Total local revenue.

The amount of local revenues obtained by all municipalities and boroughs, including the city of Sydney, was £775,548 16s. 6d., of which sum £328,417 3s. 5d. was obtained from general rates, £191,488 17s. 3d. from special rates for sewerage, water supply, and lighting; £129,188 3s. 8d. from Government endowment, and £126,454 12s. 2d. from other sources, the proportion of each item to total being—

	Per cent. of total revenue
General rates	42·35
Special rates	24·69
Endowment	16·66
Miscellaneous	16·30

No lighting rate is levied in the city of Sydney. The expense of lighting was £12,332. This has been deducted from the amount of the general rates, and added to the special rates, in order that the above statement might be complete.

Population of municipalities.

The population resident in all municipalities and boroughs throughout the Colony numbered 575,264 at the end of 1887. The burthen of local taxation was therefore £1 2s. 6d. per head, including special rates and subscriptions, or 9·9 per cent. on the annual value of ratable property.

Expenditure of city.

The expenditure of the city of Sydney for other purposes than water and sewerage, £213,390, which may be grouped under the following heads:—

	£
Officers' salaries and office expenses	8,946
City improvement	140,628
Lighting	12,332
Sinking fund and interest	23,372
Loan funds—streets and Town Hall	16,000
Other charges	12,112
Total	£213,390

The water fund involved an expenditure of £78,770, of which £6,762 was for interest, while the revenue received was £78,018, and the credit balance in bank was £46,468. The sewerage fund had a revenue of £42,760 10s., against which there was an expenditure of £39,173 15s., of which £12,083 was for interest. The debit balance on this fund was £9,000.

Suburban expenditure.

The expenditure of the suburban boroughs and municipalities for the year was £380,190 3s. 2d., which may be subdivided under the following heads :—

	£	s.	d.
Salaries and office expenses	16,965	6	7
Public works	258,274	10	2
Lighting	25,749	1	9
Interest on loans	20,847	7	8
Miscellaneous, including repayment of loans	58,353	17	0
Total	£380,190	3	2

Country municipal expenditure.

The office expenses amount to 7·20 per cent. of the total revenue of these municipalities, and will appear by no means unreasonable when the smallness of some of the districts and the difficulties attending the inception of municipalities are borne in mind. The charge for water rate has been omitted, as the revenue on this score has been hitherto collected by the city authorities, and included under the water fund already adverted to. The expenditure of the other municipalities of the Colony for the year 1887 was £282,600 16s. 11d., which, divided under the same headings as given for suburban municipalities, would appear as follows :—

	£	s.	d.
Salaries and office expenses	25,549	0	5
Public works	162,973	2	7
Lighting and water supply	34,879	18	9
Interest on loans	12,335	4	10
Miscellaneous, including repayment of loans	46,963	10	4
Total	£282,600	16	11

Salaries and office expenses.

The salaries and office expenses form a charge of 12·47 per cent. upon the total receipts during the year, which is considerably larger than in the suburban municipalities. The greater number of the country boroughs and municipal districts are large in area and small in population and revenue, and the proportion of expenses required to defray salaries and other charges is naturally larger than in the case of the more compact and populous districts surrounding the metropolis.

Municipal loans.

The revenue of the municipalities of the Colony from loans amounted to £300,283 during the year 1887; while the sum paid off existing loans, or towards sinking funds for the extinguishing of loans, was £107,135. The total indebtedness at the close of the year was £1,488,147, and towards meeting this amount there was a sum at the credit of the sinking funds amounting to £27,350, so that the net liability was £1,460,797. The sum quoted above was owing during only part of the year, so that the total interest paid amounted to only £69,551, the rate varying from 4 to 9 per cent., the average rate of interest being 6 per cent. The total debt per head of population living in municipalities amounts to £2 11s., and per ratepayer £14 1s. 1d.; while the yearly charge for interest in the former case is 2s. 3d. per head, and in the latter 13s. 5d. These sums, viewed apart from the resources of the municipalities, are by no means formidable; but, taken in connection with their general assets, the local debts of municipalities will appear insignificant. The returns from the municipalities and boroughs are not by any means complete, so that the total figures given must be taken as the nearest approximations that can be arrived at. The whole of the before-mentioned debt was incurred for public works and buildings. The following are the city liabilities:—

City loans.

	£	£
Debentures (interminable)	100,000	
Average Bank overdraft	20,000	
		120,000
Loans on Debentures (terminable at fixed dates)—		
Cattle Sale-yards Fund	60,000	
Town Hall Loan Fund	275,000	
Streets Loan Fund	300,000	
		635,000
Total		£755,000

Payment of these latter sums on maturity is by Act of Parliament, in each case peremptorily provided for by the institution of sinking funds. The amount paid into the sinking funds during 1887 was £10,350.

Assets of city of Sydney.

Against this debt of £755,000 there exist assets approximately amounting to £2,342,000, distributed as follows :—

	£
Value of made roads, &c.	662,000
Town Hall	400,000
Markets and land	630,000
Other buildings	120,000
Cattle Sale-yards	120,000
Wharves	410,000
Total	£2,342,000

And if to this sum be added the present value of future rates, allowing twenty years' purchase amounting to £2,900,000, the assets of the City Corporation amount to about £5,242,000, so that the indebtedness of the city of Sydney amounts to only 14·4 per cent. of the available assets.

Assets of other municipalities.

The liability of the other incorporated districts of the Colony amounted to £733,147, or rather more than 2½ times the ordinary rates of the year. Against this they have assets amounting approximately to £2,824,972, distributed as follows :—

	£
Value of made roads and streets	2,468,104
Buildings	202,665
Other surplus assets over liabilities	154,203
Total	£2,824,972

The present value of future rates at twenty years' purchase amounts to £4,000,000, which, added to the sum stated above, would make the total assets of these municipalities reach the sum of £6,825,000. The total municipal debt of the incorporated districts outside the boundaries of the city of Sydney, would therefore appear to be only 10·7 per cent. of the available assets.

Streets and roads.

The length of streets and lanes within the boundaries of the city is 105 miles, and nearly all the roadways are formed, kerbed, and bordered by pavements of asphalt, tarred stone, flagging, or other suitable material, while 241,926 square yards of carriage-way have been laid with wood blocks. The value to the city of these streets is hardly less than £662,000. Throughout the suburbs the extent of roads and streets is 1,192 miles, of which 583 miles are regularly formed, and the approximate value of these roadways, with culverts, bridges, and similar works, may be set down at £1,330,661. In the other municipalities of the Colony there are 1,656 miles of made road, and 1,806 miles of unformed roads, the value of these improvements being about £1,137,443.

Municipal works.

Municipal councils are authorized by law to undertake the construction of water, sewerage, or gas works, in addition to the work usually carried on by them. To regulate the construction, maintenance, and management of these works, various enactments have been passed.

Water supply.

As early as 1850 authority was given the City Corporation by the Legislative Council for the construction of water and sewerage works, and in accordance with such authority a system of water supply from the Lachlan, Bunnerong, and Botany Swamps was adopted. This scheme involved the interception of the water, from the stream draining these swamps, at a point near the shore of Botany Bay, and pumping it to Crown-street Reservoir, 132 feet above the level of the sea; thence a portion was raised to Paddington, 280 feet over sea-level, and a further portion to Woollahra, 320 feet over sea-level. The cost of the water supply works as carried out by the City Corporation, including 301 miles of reticulation pipes, was £1,719,565. These works have now been superseded by the Nepean scheme, recommended by the Royal Commission on Water Supply, and carried out by Mr. E. O. Moriarty, M.I.C.E. The works in connection with this scheme have been conceived on a scale of magnitude commensurate with the growth to which Sydney will ultimately attain. The source of supply is the united waters of the Nepean, Cataract, and Cordeaux, mountain streams draining an area of 324 square miles, fed by the abundant rain which falls along the coast district west of Wollongong. The water is intercepted at a height of 437 feet above the level of the sea, and flows through a series of conduits—partly tunnel, partly open canals, and in places wrought-iron

Nepean scheme.

Prospect Reservoir.

aqueducts—to Prospect Reservoir, a distance of 40 miles from the farthest source of supply. Here an impounding reservoir is being constructed capable of holding 11,000 million gallons, of which nearly 7,000 million will be available for supply, the remainder being intended as a settling area. The top water at Prospect Reservoir is 195 feet over high water in Sydney Harbour. From Prospect the water is led through open conduits for a further distance of 4¾ miles, whence it is taken to Crown-street Reservoir, a distance of 16 miles, in iron pipes. The conduits above Prospect Reservoir have a capacity of 150 million gallons per day, and for 10 miles below this reservoir the capacity of the canals and pipes equals a maximum of 50 million gallons, while for the last 11 miles the water flows through 48-inch and 42-inch cast-iron pipes, having a capacity of 17·5 million gallons daily. In this work there are:

Tunnels	11¾	miles.
Open canals	33¼	,,
Wrought-iron pipes, 8ft., 7ft. 6in., and 6ft. diameter	5½	,,
Cast-iron pipes, 48in. and 42in. diameter	11	,,
Water surface of reservoir	1½	,,
Total	63	miles.

Cost of works.

All the works in connection with this magnificent scheme are completed with the exception of Prospect Reservoir. The dam in connection with this work is 1¾ miles long, and 80 feet deep in the centre, and contains 2,316,500 cubic yards of earthwork; it has been already raised sufficiently high to enable the canals leading to Sydney to be supplied. The cost of the works to the close of 1887, including purchase of land and supervision, was £2,063,572. By a recent Act the management of the whole of the Metropolitan Water Supply, including both the Botany and the Nepean works, as well as the reticulation and supply of Sydney, has been placed in the hands of a board called the Metropolitan Water Supply and Sewerage Board, three members of which, including the chairman, are appointed by the Government, and four elected by the municipalities interested. At present the number of persons supplied with water in the metropolitan district is about 260,000; the average consumption is 9,000,000 gallons daily, or at the rate of 35 gallons per head.

Country water supply.

The Country Water Supply and Sewerage Act was passed in 1880. Under the provisions of this measure municipalities outside the county of Cumberland are entitled to construct, or have constructed for them by the Government, works for water supply and sewerage, provided the construction of the same be approved by the Governor-in-Council, and the municipalities agree to pay back the original cost of the works, with interest at the rate of 4 per cent. per annum. The Government pays for the certified cost of the works, and the municipalities pay the Government by instalments extending over a period of eighteen years. Under the operations of this Act eight water supply works have been carried out by the Government and two by municipal councils, while three are at present under construction. The works completed by the Government are—

Town.	Cost.	Town.	Cost.
Wagga Wagga	£37,998	Bourke	£13,845
Albury	41,835	Wentworth	8,860
Bathurst	51,492	Deniliquin	17,622
Goulburn	51,076	Hunter River District	338,857

while Parramatta, Hay, Forbes, and Wilcannia have been carried out by the municipalities themselves, and Lismore, Orange, and Balranald are being carried out by the Government.

Sewerage

Under the same Act which authorized the construction of the Sydney water supply, the sewerage works were also undertaken. The original sewerage works of Sydney were begun in 1854, and up to the close of 1887, 67½ miles of sewers of all kinds have been constructed, at a charge of £932,377, the expenditure in 1887 being £39,174. In 1880 an entirely new scheme of sewerage of a very comprehensive character was begun. This system will drain the whole of the northern and southern slopes of the city and suburbs, discharging the sewerage of the former into the ocean between Bondi and South Head, and of the latter at a model sewerage farm on the shores of Botany Bay. This system is nearly completed, and at the close of 1887 about £720,000 had been expended upon it.

Gasworks.

Under the authority of a recent Act gasworks have been constructed in several places by municipalities; further particulars in respect to which will be found under the head of Manufactures and Works.

Houses.

In Sydney there are approximately 21,437 houses, occupied by 125,850 persons, while the number of ratepayers is 8,172. In the suburbs of Sydney there are 47,885 houses, in which 225,016 persons dwell, while in the other municipalities there are 44,112 houses, occupied by 221,898 persons. In the unincorporated portion of the Colony there are about 97,000 houses, inhabited by 470,155 persons. It would thus appear that the total number of houses in New South Wales is about 210,434.

Municipal elections.

Municipalities are for the most part divided into wards, according to population, and every ratepayer is entitled to vote at the election of aldermen. Persons assessed at less than £25 annual value are entitled to one vote, from £25 to £75, to two votes, from £75 to £150, to three votes, and over £150, to four votes. Votes are cumulative up to four, and the method of voting is by ballot, as in the parliamentary elections.

The persons qualified to vote at municipal elections number 103,914, thus distributed:

	Municipal voters.
Sydney	8,172
Suburbs	48,846
Other municipalities	46,896
Total	103,914

Number of electors.

The number of electors entitled to vote for Parliament is 270,394, so that the proportion of municipal to parliamentary voters is 38·43 per 100, and to the total population 9·96 per 100. Including the twenty-four representatives of the city, there are 1,107 aldermen in the Colony, and the average number of municipal electors per alderman is thus 94. Of the 103,914 electors mentioned above, 50,557 are entitled to only one vote, 34,423 are entitled to two, 10,903 to three, and 8,031 to the maximum of four. The records of the voting in the various municipalities are very imperfect; but it would appear that at the elections for aldermen to serve during the year 1888 there were 24,385 voters who recorded their vote. No comparison can be made as to the proportion of persons entitled to vote who exercised their privilege, as in a large number of municipalities no contests took place, whilst in others there were not contests in all the wards.

Extension of local government.

It is proposed by a measure now before Parliament to extend the system of local government over the remaining portions of the Colony. This is on all sides deemed a very necessary step, as under the present system there is no certainty that the expenditure of the Government on purely local works is at all times equitable. Leaving out of consideration the expenditure on works of national importance, the Government during the past twenty-eight years expended no less than £17,027,784 on works of a purely local character, not including school buildings. Of this sum £11,272,470 was expended in the country districts, and £5,755,314 in the metropolis. The division of the Colony into local government districts will not necessarily be followed by an entire stoppage of the direct expenditure in works of merely local interest by the central Government, but the larger portion of the works now undertaken by Government will be left to the local authorities, who, having to directly provide part of the expenditure, will probably see that it is laid out to the best advantage. Adopting the two divisions of metropolis and country, already mentioned, the expenditure in each since 1860 is given below. As regards the metropolitan expenditure, nearly half the total—viz., £2,789,311—was expended on water supply and sewerage works, which are sources of revenue. In the country districts the amount expended on similar works was only £547,735.

Expenditure by Government for local purposes.

Amounts expended on Local Public Works in the Country Districts and Metropolis.

Year.	Country districts.		Metropolis.		Total.	
	Expenditure.	Rate per head.	Expenditure.	Rate per head.	Expenditure.	Rate per head.
	£	£ s. d.	£	£ s. d.	£	£ s. d.
1860	65,861	0 5 4	21,240	0 4 5	87,101	0 5 1
1861	103,250	0 8 0	34,709	0 7 1	137,959	0 7 9
1862	118,131	0 8 11	40,612	0 8 5	158,743	0 8 9
1863	94,825	0 6 11	15,842	0 3 3	110,667	0 5 11
1864	133,591	0 9 4	17,352	0 3 6	150,943	0 7 10
1865	109,835	0 7 5	12,168	0 2 4	122,003	0 6 0
1866	92,796	0 6 0	9,963	0 1 9	102,759	0 4 11
1867	137,405	0 8 7	37,621	0 6 4	175,026	0 8 0
1868	163,819	0 9 11	33,701	0 5 5	197,520	0 8 8
1869	190,810	0 11 1	21,460	0 3 4	212,270	0 9 0
1870	124,540	0 7 0	32,347	0 4 10	156,887	0 6 5
1871	169,239	0 9 4	18,009	0 2 7	187,248	0 7 4
1872	129,003	0 6 9	40,524	0 5 8	169,527	0 6 5
1873	230,385	0 11 7	51,056	0 6 10	281,441	0 10 4
1874	265,003	0 13 0	48,211	0 6 3	313,214	0 11 1
1875	375,819	0 17 9	47,781	0 6 0	423,600	0 14 5
1876	415,025	0 19 0	68,710	0 8 2	483,735	0 16 0
1877	497,184	1 2 0	60,141	0 6 10	557,325	0 17 8
1878	643,912	1 7 4	86,373	0 9 2	730,285	1 2 2
1879	794,983	1 12 5	165,856	0 16 6	960,839	1 7 10
1880	793,966	1 11 0	201,734	0 18 10	995,700	1 7 5
1881	583,471	1 1 10	357,182	1 11 4	940,651	1 4 9
1882	704,892	1 5 5	702,696	2 18 1	1,407,588	1 15 5
1883	758,052	1 6 3	931,615	3 12 0	1,689,667	2 0 6
1884	940,858	1 11 3	669,209	2 8 0	1,610,067	1 16 6
1885	981,951	1 11 6	704,636	2 6 9	1,686,587	1 16 2
1886	868,923	1 6 4	767,906	2 7 6	1,636,829	1 13 5
1887	784,941	1 3 1	556,660	1 12 6	1,341,601	1 6 3

PART XXII.

Social Condition and Charities.

IT will seen from the foregoing pages that the material prosperity of New South Wales compares favourably with that of any other country, however fortunate may be its lot. But in one particular this Colony, in common with all the provinces of Australia, differs greatly from other countries, especially those of the Old World. Wealth is widely distributed, and the contrast between rich and poor, which seems so peculiar a phase of old-world civilizations, finds no parallel in these southern lands. That there is poverty in the colonies is undeniable, but no one in Australia is born to poverty; and that hereditary pauper class which forms so grave a menace to the freedom of many states, has, therefore, no existence here.

It is estimated that in the United Kingdom six persons in every hundred possess property to the amount of £100, whereas in this Colony 12 per cent. of the population have property. This bare statement shows the vast difference in the conditions of life in Australia and in the richest countries of Europe. No poor rate is levied in this Colony, nor is such needed; for although it may happen that from time to time the assistance of the State is claimed by, and granted to, able-bodied men who are unable to find employment, that assistance takes the form of wages paid for work specially provided by the State to meet a condition of the labour market which is certainly abnormal.

The chief efforts of the State as regards charity are directed towards the rescue of the young from criminal surroundings and temptation to crime, the support of the aged and infirm, the care of the imbecile or insane, and the subsidising of private charity for the cure of the sick and injured and the amelioration of want. The rescue of the young from crime is attempted in two ways—first, by means of the State Children's Relief Board, which takes care of children whose natural guardians have abandoned them, or who are likely, from the poverty or incapacity of their parents, to be so neglected as to render them liable to lapse into crime; and, secondly, by sequestering children who have already committed crimes, or whose parents or guardians find themselves unable to control them.

Supervision of Expenditure.

Even where the State grants aid for philanthropic purposes, the management of the institutions supervising the expenditure is in private hands. Besides State-aided institutions there are numerous private charities, whose efforts for the relief of those whom penury, sickness, or misfortune has afflicted are beyond all praise.

Necessity for hospitals.

In the part of this volume dealing with mortality, it has been pointed out that the number of deaths caused by accident is very numerous. This arises from the peculiar nature of the occupations in which a large proportion of the adult male population is employed. Though New South Wales has long been settled, its resources are by no means developed, and very many men are at work far away from the home comforts of everyday life, and from home attendance in case of sickness or injury. Hospitals are therefore absolutely essential under the conditions of life in the country districts of the Colony, and they are accordingly found in every important country town. At the close of the year 1887 there were in operation in the Colony 72 hospitals or infirmaries, all of which, with the exception of St. Vincent's Hospital in Sydney, were assisted by the State.

Accommodation in hospitals.

The accommodation was provided in 303 wards or dormitories having a total capacity of 2,039,492 cubic feet, so that the average air space to each dormitory was 6,731 cubic feet. There were 1,795 beds, the average air space to each patient was a minimum of 1,136 cubic feet, but as the hospitals are rarely filled to the limit of their accommodation, the air space to each patient was as a rule much greater than the minimum just stated. During the year 13,438 persons were under treatment as indoor patients. Of this number 1,041 remained from the previous year, and 12,397 were admitted during 1887. There were discharged 10,839 persons, either as cured or relieved, or at their own request, and 301 as past all human assistance, while 1,190 died. The number remaining in hospital at the close of the year was therefore 1,108. The following statement shows the number of admissions, discharges, and deaths for the past ten years :—

Persons under treatment.

Number of Cases treated in Hospitals.

Year.	Total Patients under Treatment.	Number Discharged as Cured, &c.	Deaths.		Number of Patients at the close of Year.
			Number.	Per cent.	
1878	7,393	5,956	738	9·98	699
1879	7,560	6,021	755	9·98	784
1880	8,315	6,656	847	10·18	812
1881	9,136	7,275	946	10·35	915
1882	8,445	6,855	894	10·58	696
1883	8,245	6,659	796	9·65	790
1884	9,318	7,375	952	10·21	991
1885	12,793	10,449	1,329	10·38	1,015
1886	13,115	10,825	1,249	9·52	1,041
1887	13,438	11,140	1,190	8·85	1,108

The number remaining at the close of the year may be taken as representing the average number resident. It will be seen from the preceding table that the increase has been fairly regular, so that the proportion of the population to be found in hospitals is

Average number of hospital cases.

about the same in each year and averages 1·05 per thousand. The length of time during which patients remain under treatment has not been exactly determined; but as far as the information extends it would appear the average is 27·5 days for all hospitals. That this computation may be fairly relied on would appear from the statement made in the last report of the Prince Alfred Hospital. In that institution the average time of residence of all patients during 1887 was 28·6 days. It is interesting to note that the period of residence of patients received under orders from the Government was 36·4 days, while those paying for or contributing towards their support have an average of 26·6 days.

Death rates in hospitals.

The death rate per 100 persons under treatment during the past ten years was 9·91, while the rate for 1887 was 8·85 or 1·06 below the decennial average. The average for each year will be found in the preceding table. The death rate of hospitals in New South Wales, compared with Europe, is undoubtedly very high. The number of fatal cases is swollen by the inclusion of the deaths of persons already moribund when admitted, and of persons in the last stage of phthisis. It has elsewhere been pointed out that deaths from accidents form a very considerable proportion of the total deaths registered, a circumstance due to the nature of the occupations of the people, and the dangers incidental to pioneering enterprise. A large majority of the accidents that occur are treated in the hospitals; and, indeed, these institutions, especially in country districts, are for the most part maintained for the treatment of surgical cases. When these circumstances are taken into consideration, the cause of the apparent excess of deaths in the hospitals of the Colony will be at once understood.

Outdoor relief.

No exact information is to hand respecting the outdoor relief afforded by hospitals, this form of charity not being so important as indoor relief; nevertheless, the number of attendances during 1887 was 40,117, and estimating four attendances to each person, there were relieved 10,029 persons.

State expenditure on hospitals.

Omitting from consideration the Government establishment at Little Bay, the expenditure of all the hospitals of the Colony for purposes other than out-patients and building was £75,153 0s. 7d., representing an average of £83 4s. 6d. per patient resident, or for each bed occupied. This sum is somewhat in excess of the truth, as full deduction cannot be made for out-patients. The average cost per patient treated was £6 10s. 4d. The subscriptions received from private persons amounted to £38,575 1s. 10d., and the miscellaneous receipts, including payments by patients, were £18,260 2s. 4d., in all £56,835 4s. 2d. from private sources and from patients. From Government the sum of £37,860 10s. 3d was received, so that the total revenue of hospitals from all sources was £94,695 14s. 5d. The following statement shows the revenue and expenditure of these institutions for the year 1887:—

Revenue of hospitals.

Revenue and Expenditure of Hospitals.

	Metropolitan.			Country.			Total.		
Receipts—	£	s.	d.	£	s.	d.	£	s.	d.
Government Aid	16,186	5	8	21,674	4	7	37,860	10	3
Private Contributions	14,482	18	4	24,092	3	6	38,575	1	10
Other sources	10,001	1	0	8,259	1	4	18,260	2	4
Total receipts	40,670	5	0	54,025	9	5	94,695	14	5
Expenditure—									
Building and Repairs	11,782	8	2	7,834	4	1	20,616	12	3
Maintenance	32,091	3	10	32,784	16	11	64,876	0	9
Outdoor Relief	1,144	6	1	273	0	10	1,417	6	11
Miscellaneous	3,042	14	4	7,234	5	6	10,276	19	10
Total expenditure	49,060	12	5	48,126	7	4	97,186	19	9

Total expenditure by the state.

The expenditure in connection with the Little Bay Hospital has not been included above, being entirely in the hands of the Government. The cost of this institution was £10,093 3s. 7d., so that the total expenditure of the State amounted to £47,953 13s. 10d., and the gross expenditure by the Government upon all hospitals and asylums, with the exception of asylums for the insane, was £83,102. This sum includes £29,925 paid to support the asylum for old men at Liverpool, the asylum for aged and infirm women at Newington, Parramatta River; the two asylums at Parramatta, and the Benevolent Asylum, Sydney.

The Infants' Home, Ashfield; the Hospital for sick children, Glebe; the Institution for the deaf, dumb, and the blind, Newtown, besides other institutions in different parts of the Colony, receive help from the State; but they are maintained principally by private contributions. The management of these, and, indeed, of almost all institutions for the relief of the sick, is in the hands of committees elected by persons subscribing towards their support.

Charitable asylums.

Besides hospitals properly so called, there exist various institutions for the reception of fallen women, for the treatment of the blind, and the deaf, and dumb; for destitute women, for casual aid to indigent persons, for the help of discharged prisoners, and for many other purposes which rouse the charity of the people. Exact figures respecting every institution have not been procurable. The following table gives the number of adult persons remaining at the close of 1887 in some of the institutions named, and may be taken as representing the average for the year. The figures for the City Night Refuge show only the number of persons usually retained about the establishment. There were 96,348 meals given during the year ending 30th June, 1888, at the Refuge, shelter was provided in 38,880 instances, the number of separate persons relieved was 4,498, the daily average being 264 meals, and 106 nightly shelters.

Number of Persons in various Charitable Institutions, mainly supported by Private Charity, at the end of each year, 1878–87.

Institution.	1878.		1879.		1880.		1881.		1882.		1883.		1884.		1885.		1886.		1887.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Industrial Blind Institution..	...	...	...	...	...	...	...	...	9	...	10	...	20	...	20	...	21	...	22	...
Consumptives' Home	...	...	...	...	...	...	...	...	...	...	12	4	12	5	13	4	19	8	22	10
House of the Good Samaritan	...	57	...	68	...	94	...	49	...	56	...	84	...	62	...	64	...	80	...	66
Sydney Female Refuge.........	...	47	...	46	...	37	...	40	...	47	...	37	...	43	...	44	...	48	...	44
Infants' Home, Ashfield (women)	...	...	...	...	...	...	...	...	...	20	...	12	...	23	...	11	...	19	...	22
*City Night Refuge, &c.	20	...	20	...	20	...	20	...	20	...	20	...	20	...	19	...	18	...	18	...
Total............	20	104	20	114	20	131	20	89	29	123	42	137	52	133	52	123	58	155	62	156

* Meals given during the year ending 30th June, 1888, 96,348; shelter provided in 38,880 instances; daily average, 264 meals, and 106 nightly shelters —representing 4,498 distinc persons

Destitute children.

The problem of dealing with destitute children and those liable from their environment to become criminal is naturally surrounded with very great difficulty, and its solution was attempted many years ago by the establishment of the orphanages at Parramatta, and the destitute children's asylum at Randwick, as well as the Vernon Reformatory for boys, and the Biloela Reformatory for girls. The system of crowding children in large establishments was rightly considered as open to many grave objections, and in 1880 a scheme of separate treatment was inaugurated. Accordingly an Act was passed by the Legislature, empowering the formation of a Board, to whose charge the destitute or neglected children of the Colony were entrusted. The Board was empowered to take children from the various institutions, and deal with them in certain specified ways.

State Children's Relief Board.

During the eight years, ending in April, 1888, the number of children under the control of the State Children's Relief Board had increased to 2,606; of these 646 were reclaimed by their relatives or friends, and 136 were adopted principally by persons possessing no children of their own. On reaching the age of 12 years, children are eligible to be apprenticed, if they are physically fit therefor, and 546 apprenticeships have been sanctioned. The majority of the girls have been placed at domestic service, and about two-thirds of the boys have been apprenticed to farmers. The largest number of the children (1,170) have been boarded out, the Government paying certain persons, deemed eligible, sums varying from 5s. to 7s. per week for the maintenance of those put under their charge. The Board exercise a strict watch over all children in their care, and cases of neglect or ill-treatment have been very infrequent. The remaining children in April last were distributed as follows:—Four in the Central Home, 6 in Hospitals, and 98 consigned to Cottage Homes for invalids, of which there are two at Parramatta and five at Mittagong. Although a considerable number (794) passed through the Central Home at Paddington during last year, the system in force provides for their speedy removal to the country; and so the average daily

Supervision of children.

number of inmates at that institution was only nine. In the last report of the State Children's Relief Department much interesting information is given concerning the problem of how to cope successfully with the difficulty of maintaining State children; and, after eight years' experience of the boarding-out system in this Colony, it is claimed that when fairly tested the advantages that may be realized thereby, are much greater than under the system of aggregating children in asylums. The deaths of seven children occurred during the year, and, allowing for those removed from the supervision of the Board, there remained at the close of 1887 1,928 children under its control.

Number of children under control.

The number of children under the control of the Board has increased materially since 1880, as will be seen from the following figures:—

Year.	Number under control.
1880	52
1881	80
1882	245
1883	454
1884	867
1885	1,315
1886	1,699
1887	1,928

Ages of children.

The ages of children placed out since the inauguration of the system of relief were—

Year.		Year.	
Under 1	14	7 to 8	218
1 to 2	49	8 to 9	311
2 to 3	168	9 to 10	288
3 to 4	197	10 to 11	247
4 to 5	205	11 to 12	212
5 to 6	178	Over 12	196
6 to 7	222		

The largest number of children dealt with by the Board have been taken from the Benevolent Asylum, Sydney, 1,545 having been so taken up to the end of 1887; from the Randwick Asylum 305 children were received; and from the Orphan Schools, Parramatta, 362 children were taken. The orphan schools have since been closed, as the children who would formerly have been sent to them are now taken charge of by the Board. The remaining children have been taken from other public institutions and hospitals; from the Vernon, 117; from the Infants' Home, Ashfield, 56; from Biloela, 51; from Little Bay Hospital, 26; and other institutions, 43.

Operations of board successful.

The operations of the Board must be held to be extremely successful, as not only are the children individually more satisfactorily treated than could be the case in crowded institutions, but the number becoming a charge on the State is now proportionally less than formerly was the case, and the admirable system of relief organized by the Board bids fair to solve the difficult problem of juvenile destitution and juvenile crime. The number of destitute children, including those detained at Biloela and on the Vernon, and in the various asylums, during each of the past thirteen years, was—

Destitute Children.

Year.	Number.	Year.	Number.
1875	1,513	1882	1,858
1876	1,546	1883	1,861
1877	1,573	1884	1,787
1878	1,582	1885	1,856
1879	1,726	1886	1,866
1880	1,742	1887	1,973
1881	1,817		

The increase of 460 during the period bearing but a small proportion of what might have been expected from the large increase in the juvenile population of the Colony.

Reformatories.

Three institutions are maintained at the charge of the State for the reformation of children. The Shaftesbury Reformatory, for girls who are in danger of becoming habitual criminals; the Parramatta Asylum, for girls of more tender years; and the Vernon training-ship, for boys. No reformatory exclusively for criminal boys exists; but the Vernon serves the double purpose of training-school and reformatory. The number of children in these institutions during the past ten years has been—

Children in Reformatories.

Year.	Vernon.	Biloela.	Shaftesbury.	Total.
1878	113	90	3	206
1879	124	115	4	243
1880	148	117	11	276
1881	177	130	19	326
1882	186	130	29	345
1883	213	119	27	359
1884	202	105	25	332
1885	202	106	29	337
1886	205	90	24	319
1887	203	90	26	319

Industrial school.

During 1887 the industrial school for girls was removed from Biloela, Cockatoo Island, to the building formerly occupied by the Roman Catholic Orphan School, Parramatta.

Destitute adults.

The number of destitute adults wholly or in part supported by the State as inmates of the various asylums of the Colony at the close of the year 1887 was 2,190, of whom 1,719 were men, and 471 women. The great majority of those in the asylums are persons of very advanced years and unable to work. The inmates of the Benevolent Asylum, Sydney, however, form an exception to this rule, as a large proportion of them are destitute women who use the institution as a lying-in hospital. The number of men and women in the various institutions with the percentage to the whole community at the close of each of the past ten years was—

Destitute Adults.

Year.	Males.	Females.	Total.	Percentage of Population.		
				Male.	Female.	Total.
1878	995	340	1,335	0·28	0·11	0·20
1879	1,044	368	1,412	0·28	0·11	0·20
1880	994	382	1,376	0·25	0·11	0·19
1881	985	375	1,360	0·23	0·11	0·18
1882	980	402	1,382	0·22	0·11	0·17
1883	1,282	408	1,690	0·28	0·11	0·20
1884	1,363	435	1,798	0·28	0·11	0·20
1885	1,366	400	1,766	0·26	0·10	0·19
1886	1,504	448	1,952	0·28	0·10	0·19
1887	1,719	471	2,190	0·30	0·10	0·21

Increase due to depression.

The increase noticeable during some years is probably due to the defective seasons experienced throughout the Colony, and the consequent closing of avenues of income which remained open to some of these old people, in more favourable times. The proportion of persons to the whole population shown in the above table will appear extremely small compared with that of other countries. The proportion of population in the United Kingdom dependent upon the State for support was, at the beginning of the year 1887—

England	3·15 per cent.
Scotland	2·35 ,,
Ireland	2·32 ,,
United Kingdom	2·93 ,,

as against 0·21 per cent. in this Colony, a state of things plainly illustrating the happier lot of the people of Australia.

Treatment of insane.

The treatment of the insane has been dealt with under the head of Vital Statistics. The average number of insane persons resident in hospital during the year was 2,722, while the total number under care was 3,278. The various institutions for the insane in the Colony were sustained by the Government during 1887 for the sum of £73,438, equivalent to a weekly cost of 10s. 6d. for each patient, and an annual expense per head of population of 1s. 5d. The treatment meted out to the insane is that dictated by the greatest humanity, and the hospitals are fitted with all the conveniences and appliances which modern science points out as most calculated to mitigate or remove the affliction under which these unfortunates labour. The total expenditure of the State in connection with all forms of relief and in aid of hospitals and other charitable institutions amounted in 1887 to £156,540.

Material and intellectual progress.

It will have been gathered from the foregoing pages that in its anxiety to foster material progress, the State has not overlooked the care of those whom old age or misfortune has afflicted, nor has that psychical progress been neglected without which material advancement would be incomplete. The solicitude manifested for the spread of education and enlightenment, and the impartial toleration meted out to all forms of belief, leave nothing in these respects to be desired.

Intellectual progress.

The intellectual progress of the people has been even more rapid than their material advancement. Nor has this progress been confined to those sciences which are necessary for material prosperity. The State, conscious of the value of literature in softening the minds and manners of the people, encourages with great liberality the establishment of libraries and reading-rooms. In spite of their busy lives, the colonists of New South Wales have done something towards increasing the general wealth of the English literature, and with less stirring times—inevitable to the building-up of a nation—and the existence of a leisured class, the fruits of the care now lavished upon intellectual culture will be found in literature worthy of Australia.

Destiny of Australia.

More truly can it be said of the Australians than of any other people that their destiny is in their own hands. Their country is most happily situated. Unlike most other lands it stands in danger from no enemies upon its border, nor is it possible that its Government should ever engage in a struggle to subvert the liberties of its people. Its colonization in these latter days augurs a future free from old world strifes and traditional hatreds, and thus, happy in its situation and most fortunate in its wealth, it may await its future in calm confidence.

STATISTICAL

THE NEW YORK
PUBLIC LIBRARY

ASTOR, LENOX AND
TILDEN FOUNDATIONS.

Australasian Naval Force Act, 621
Australia—Financial Position of, 568
Australia Felix (Victoria), 23
Australian Agricultural Company, 90
  Museum, 605
  Rivers Discovered in Sections, 54
  Selling Price of Stock (Financial), 542
  Squadron, 621

Bank of Australasia—Failure of, 24
Banks—Amount of Reserved Profits, 557
  Capital paid up, 557
  Coin held by, 555
  Liabilities and Assets, 558, 559
  Money on Deposit, 562
  Operating in New South Wales, 557
  Proprietary Resources, 561
  Rate of last Dividend paid, 557
  Surplus of Assets over Liabilities, 560
Banks, Sir Joseph, 3
Barley—Average Production per acre, 245
  Cultivation, 244
  for Green Food, 245
  Importation of, 245
Barwon River, 53
Bass, George—Explorations, 12
Bateman's Bay, 49
Bathurst, Lake, 40
Bathurst Road Constructed, 18
Beet Sugar Competition, 253
Bega River, 45
Belubula River, 52
Belgium Large Purchaser of New South Wales Wool, 184
Bellinger River, 41
Benefactions to the University, 597
Benevolent Asylum—Accouchements in, 349
Bequests to the Sydney University, 598
Beverages—Consumption of, 300
Birds, 121
Births, 343
  in the Australasian Colonies, 344
  Illegitimate, 348
  of Males exceed Females, 344
Birthplaces of Insane, 382
  of Persons Apprehended, 461
  of the People, 315
Birth-rate in Australasian Colonies, 343
  in New South Wales, 346
Blaxland's Explorations, 18
Bligh, Governor, 14
  Arrest and Release of, 17
Blue Mountains, 37
Bogan River, 22, 54
Boiling-down Commenced, 24
Books in Free Public Library, 607
Boot Factories, 399
Boroughs—Value of Ratable Property, 624, 626
Botany Bay—Area of, 48
  Discovery of, 3
  Settlement Abandoned, 8
Bounty—Mutiny of, 14
Bourke—Climate of, 58
Bourke, Governor Sir Richard, 21
  Statue Erected to his Memory, 22
Breadstuffs—Average Yearly Production, 230
  Consumption in various Years, 229
  Importation of, 231
  Production and Consumption of, 228
Breweries, 400
Bridges and Culverts, 419
Brisbane—City Founded, 19
Brisbane, Governor Sir Thomas, 19
Brisbane Water, 47
British and Foreign Shipping Trade, 131
British Money invested in New South Wales, 544
  Trade, 167
Broken Bay, 47
Broken Hill Silver Mines, 79
Bronze Coin issued at Sydney Mint, 555
Broughton Islands, 50
Brunswick River, 40
Brush Forests, 107
Building Materials, 101
Bulli Disaster, 372
Burthen of Local Taxation, 633
  of Public Debt, 574
  of Taxation in Australasian Colonies, 572
Bushranging Act Passed, 20
Butter and Cheese, Consumption of, 302
  Principal Districts, 290
  Made and Imported, 289
Byron Bay, 46

Cabinets, 496
Cabs and Public Vehicles, 451
Cainozoic Formation, 65
Calamine, 89
Capital Expended on Railway Lines, 424
Capital of Banks operating in New South Wales, 557
Capital Punishment, 472
Carboniferous Formations, 62
Carpentaria Discovered, 1
Castle Hill Revolt, 13
Castlereagh River, 54
Cattle, 281
  Breeds of, 283
  Cast of, 283

Causation of Insanity, 384
Causes of Deaths, 365
Cavalry, Volunteers, 618
Caves of New South Wales, 62
Cawndilla, Lake, 55
Cedar—Red and White Varieties of, 107
Central Division, 202
  Plateau of New South Wales, 36
Cereals—Suitability of Tableland for Growth of, 215
Certificates of Provisional Protection of Patents, 415
Censorship of the Press Abolished, 19
Challis Bequest to the University, 598
Charitable Institutions, 649
Charities, 643
Cheese Made and Imported, 289
Children of School Age, 582
  Born to a Marriage, 342
Chili Bars, 85
China and Japan as Markets for Wool, 278
Chinese Immigration in Australia, 313
  Influx in New South Wales, 313
  in Australasian Colonies, 314
  Population, 312
  Principal Cultivators of Tobacco, 249
Church of England Schools, 592
Church Act passed, 22
Churches, Erection of, 18
Cinnabar, 90
City of Sydney Assets, 636
  Expenditure, 631
  Loans, 635
  Revenue, 631
  Vehicular Traffic, 451
Civil Suits, 483
Clarence River, 41
Climate of Coastal Districts, 56
  of Northern and Southern Hemispheres, 56
  of Sydney, 56
  of Tablelands, 57
  of Western Districts, 58
Clyde River, 45
Coal, 90
  Annual Consumption per Head, 93
  Area of, 91
  Average Price of—1829 to 1887, 92, 93
  Consumption of, increasing, 93
  Consumption of Victoria, 93
  Export of, 94
  First Discovery of, 90
  in the Blue Mountains, 91
  Local Consumption, 93
  Measures, 62
  Mines, Number Registered, 92
Coal—New South Wales and Foreign Mines Compared, 95
  Output of, 90
  Production and Value, 92
  Total Quantity Extracted in New South Wales, 91
  Wealth of New South Wales in, 95
Coastal Region—Climate of, 56
  Valleys, Rich Soil of, 214
Cobalt, 89
Cobar Copper Mines, 86
Coila, Lake, 49
Coin held by Banks, 555
Coinage—Gold received at the Mint, 554
  Bronze issued, 555
  Gold Coin issued by Sydney Mint, 554
  Silver Coin withdrawn, 555
  Silver and Bronze Coin issued, 555
Colleges Affiliated to Sydney University, 597
Colo River, 44
Commander-in-Chief of Military Forces, 495
Commerce and Shipping, 128
  of New South Wales Exceeded by India and Canada, 128
Committals and Convictions, 470
  for Trials Decreasing, 469
Conditional Leaseholds, 200
  Leases in Central Division, 202
  Purchases, Amount of Unpaid Balances, 208
  Purchases in Eastern Division, 200
  Sales of Crown Lands Revenue, 517
Conjugal Conditions of Insane, 383
Constitution Act passed, 31
  and Government, 487
  of Legislative Council, 500
Construction of the Great Western Road, 417
Consumption of Intoxicants, 302
  of Food Indicative of Prosperity, 302
  of Fresh Meat, 299
Convictions after Trial, 470
  in Australasian Colonies, 471
  and Committals in Magistrates' Courts, 469
Convicts—Number Sent to Sydney, 23
  Refused a Landing, 26
Cook Sights Australia, 3
Cook's Description of the Aborigines, 3
  Encounter with the Aborigines, 4
  Voyage, 2
Copper, 85
  Principal Deposits of, 85
  Produce of the Colony, 87
Cost of Carriage of Goods by Rail, 420
  Road Carriage, 420

Council—Executive, 496
  Legislative, 500
  Enlargement of, 20
  New Constitution of, 23
  Nominated, 19
Country Municipal Expenditure, 634
  Municipal Revenue, 632
  Water Supply, 639
Cox River, 43
Cretaceous Formation, 64
Crews of Vessels Trading with New South Wales, 137
Crime—Causes of Apparent High Rate, 471
  Effect of Education, 463
  in Australasia, 471
Criminal Cases dealt with by Magistrates, 457
  Class, 477
Criminals Executed, 473
Criminal Jurisdiction, 484
  Lunatics, 385
Crisis—Commercial, 23
Crops, 216
  Quantity and Value, 217
Crown Lands Revenue, 513
  Act of 1861 and 1884, 198
Cudgellico, Lake, 55
Cultivation—Principal Crops, 216
  Total Area Under, 213
Cunningham's Explorations, 20
Currency, 553
Curtis, Port—Surveyed, 19
Customs Revenue, 1877-1887, 196
  Revenue of Australasian Colonies, 1887, 197
  Revenue of New South Wales, 511
Customs Duties, 191

Dairy Cows, 288
  Farming, 288
  Farm Hands, 289
Dampier's Voyage, 2
Darling River—Area Drained by, 51, 53
  Distance Navigable, 54
  Explored, 22
  Length of, 51, 54
Darling, Sir Ralph, Governor, 20
  Disputes with the Colonists, 20
  Unpopularity of, 21
Darwin, Erasmus—Prophecy of Sydney's Greatness, 6
Deaf and Dumb and Blind Institution, 593
Death Rate in New South Wales, 357, 358
  of Australasian Colonies, 353
  of Australasian and European Cities, 365
Death of Children Under One Year, 362
  of Children Under Five Years, 359, 361
  of Insane, 380
  of New South Wales Favourable, 356
  of Persons Over Five Years, 358, 361
Deaths, 353
  Causes of, 365
  During Each Quarter of the Year, 356
  in Gaols, 481
Debt—Public, 539
Debtors in Confinement. 480
Defence, 615
  Cost of, 619
Deficiency of Wheat, 299
Degrees conferred by Sydney University, 599
Denison, Governor Sir William, 32
Denominational Colleges and High Schools, 601
Destiny of Australia, 655
Destitute Adults, 653
  Children, 650
Devonian Rocks, 62
Diamond Drills, 64
Diamonds, 100
Discovery by Dutch Explorers, 1
  of Murray River, 19
  of Murrumbidgee, 19
  of Gulf of Carpentaria, 1
  of New Zealand, 2
  of Tasmania, 2
Diseases—Classification of Fatal, 366
Dismissal of Cabinet Ministers, 497
District Courts, 484
Divorced Persons Remarrying, 341
Divorces—Number granted, 1875-1887, 341
Dock Accommodation in Sydney, 145
Docks and Ships in Sydney Harbour, 145
Drunkenness, 464
  Decrease of, 467
  Habitual, 467
  in Towns—Arrests for, 465
  of Females, 465
  Persons Arrested for, 466
Dumaresq River, 53
Dutch Discoveries, 1
Duties Customs, 191

Earnings of Railways, 523
  of Tramways, 525
Eastern Division, 199
  Watershed of New South Wales, 36
Ecclesiastical Jurisdiction, 482
Education—Average Cost per Scholar, 587
  of Persons Apprehended, 463

Education—Primary, 578
  Progress of, 579
  Secondary, 579
  Technical, 601
Edward River—Length of, 51, 54
Effect of Education on Crime, 463
Efficiency of Volunteer Forces, 617
Eight-hour System of Labour, 413
Elections—Municipal, 640
  to Parliament, 506
  by Ballot, 504
Electoral Act—Expansion Clause, 503
Electors—Qualifications, 501
Electric Telegraphs, 456
Emancipists—Social Recognition of, 18
Emigration—Excess in Victoria, 310
Employment, 387
Enrolment of Children, 582
  Since Passing of Education Act, 584
Endeavour—Cook's Ship, 3
  Narrow Escape of the, 5
Endeavour River, 5
Endowment to Municipalities, 623
Engineer Corps, 617
Equity Jurisdiction, 482
Estates of Deceased Persons—Average Value, 549
  of Deceased Persons—Increase in Value, 549
Eucalypti—Prevalence of, 104
Excess of Births over Deaths, 347
Excise Duties on Tobacco, 194
  Revenue, 511
Executive Council, 496
  as at Present Constituted, 498
Expansion Clause of Electoral Act, 503
Expectation of Life, 375
Expenditure—Loans and Public Debts, 537
  of Australasian Colonies, 573
  of City of Sydney, 631
  of Country Municipalities, 634
  of Government for Local Purposes, 641
  of Suburban Municipalities, 634
  of University of Sydney, 600
  on Public Roads, 418, 421
  per Head, 529, 531
Exploration in Early Days, 12, 20
Exports, 153
  Chief Article of—Wool, 156
  Chief Articles Enumerated, 159
  Mean Value per Ton Measurement, 135
  Preponderance of Home Produce, 154
  Value per Head, 155
Export of Bullion—Specie, 158
  of Coal, 158
  of Gold to America, 183
Export of Home and Foreign Produce, 154
  of Home Produce—Value per Head, 156
  of Other Animal Products, 158
  of Raw Material, 159
  of Silver and Silver Lead, 158
  Trade Declined since 1880, 155
  Trade of Australasia, 153
Extension of Local Government, 641
Extirpation of Noxious Animals, 297

Factories—Average Hands Employed, 389
Famine Imminent, 10
Farming commenced, 10
Fauna, 119
Federation Proposed, 30
Felons under Arrest, 475
Female—Drunkards Decreasing, 465
  Wage Earners, 388
Females—Employed in Factories, 397
  Offenders, 477
  Over Sixteen Years, 388
Fencing and Residence Clauses of the Crown Lands Act, 200
Fermented and Spirituous Liquors Consumed Per Head, 301, 465
Finance and Public Wealth, 507
Financial Position of Australia, 568
Fines—Cases in which Inflicted, 468
Fire Clays, 101
First Fleet—Arrival in Botany Bay, 7
Fishes, 122
Fisheries Commission, 123
Fishing Industry Neglected, 122, 125
Fish River Caves, 62
Fitzroy—Governor Sir Charles Augustus, 25
Flinders Explorations, 12
Flocks and Herds of the World, 295
Flour and Wheat—Average Yearly Import, 231
Flour Manufactured in New South Wales, 407
Flour-mill Power, 232
Food Consumed in Excess of Requirements, 304
Food Might be Grown in New South Wales, 305
Foods—Imported, 304
Food Supply, 298
Forbes, Sir Francis, 19
Foreign Produce—Re-exported—Value Per Head, 163
  Trade, 181
Forests, 104
Forest Conservation, 114
  Rangers, 115

Forest Reserves, 114
  Revenue From, 116
Fortifications, 621
Foveaux, Lieutenant-Colonel, Governor, 17
Franchise—Qualifications for, 32
Free Public Library, 606
  Cost of Maintenance, 608
  Number of Visitors, 607
  Operations in 1887, 609
Free Selection before Survey, 199
French and German Mail Steamers, 131
French Expedition—Arrival of, 9
French Settlement Suspected, 20
Freshwater Fish, 125

Gaols, 473
  Deaths and Death Rate in, 481
Gaol Deliveries, 484
Gasworks, 640
Gems, 100
General Assembly, 30
  Election of 1887, 505
Geological Formation of New South Wales, 61
George—Lake, 40
George's River, 44
German Lloyd Steamships, 131
Gipps, Sir George—Governor, 22
Girth of Timber which may be Felled, 116
Gold, 69
  Alluvial, 70
  Arrival of first Nuggets, 28
  Average to each Miner in 1887, 76
  Average Yield of Alluvium and Quartz, 77
  Discovery of, 27, 69
  Mining, 66
  Produced in Australasian Colonies, 78
  Quantity and Value Coined and Exported since 1851, 73
  Received for Coinage, 554
  Reefs recently Discovered, 75
  Veins, Richness of, 72
  Weight of Quantity Minted, 553
Goods Traffic on Railways, 439, 442
  Affected by seasons, 430
  Revenue, 430
Goulburn River, 43
Government—Constitution, 487
  and Municipal Employés, 388
Governor, 488
  Commander-in-Chief, 495
Governors of New South Wales—List of, 32
Grain—Production and Consumption of, 245
Granite, 101
Grants, Free of Land Abolished, 22
Grape Cultivation, 257
Great Barrier Range, 39
Grey Range, 39
Grose River, 44
Gwydir River, 53

Habitual Drunkenness, 467
Harbours and Ports, 45
Hardwoods, 109
Hargraves—Discoverer of Payable Gold, 69
Hastings River—Area Drained by, 42
Haulage on Railways, 440
Hawkesbury—Farming Commenced, 11
  River—Area Drained by, 43, 44
Hay—Wheaten, 233
Hereditary Chamber proposed—Public Opposition, 30, 31
High Schools, 592
  Denominational, 601
Home Produce—Value per head of Principal Articles of Export, 160
Homestead Leases, 204
Holdings, 208
  Average Area of, 209, 211
  Comparative Size of, 210
  Increase in Area of, 209
  of Various Sizes, 212
Horse-breeding, 290
Horses—Classification of, 291
  Number, 291
Hospital Cases—Average Number, 645
Hospitals—Accommodation, 644
  Death Rate, 645
  State Expenditure on, 647
Houses—Number in City, Suburbs, and Country, 640
Hovell's Explorations, 19
Hume River, 50
Hunter Captain, Second Governor, 11
Hunter Port, 47
Hunter River—Area Drained by, 42
  Discovered, 11

Igneous Formation, 65
Illawarra Lake, 49
  Line of Railway, 429
Illegitimacy, 348
Illegitimate Births in Australasian Colonies and United Kingdom compared, 350
Illiteracy in each Colony, 581
  of Women, 337
Immigrants—Birthplaces of, 311

Immigration and Emigration of Chinese, 312
  Assisted, 311
  Due to Gold Discovery, 66
  Excess of over Emigration, 310
  First Vote in Aid of, 21
Imperial Garrison, 615
  War Vessels on Station, 620
Imported Articles, 152
Imports and Exports, 147
  Mean Value per ton Measurement, 135
Imports—Classification of, 150
  Compared with Loan Expenditure, 148
  Exceed Exports, 148, 190
  Nature of Principal, 150
  Value per Head of Population, 149, 151
Imprisonment—Average Term Served by Felons, 476
Improvements on Conditional Leaseholds, 201
  Purchases, Revenue from, 517
Income from Public Lands, 514
  of Australasia, 570
  of Boroughs and Municipalities, 1887, 626
  of Persons Holding Property, or Residing in New South Wales, 552
  of Productive Pursuits, 552
  per Head of Population, 553
Industrial Schools, 593, 653
Infant Mortality, 358, 364
Infantry, 617
Influence of Loan Expenditure on Imports, 148
  of Rainfall on Crops, 219
Insane, Admissions to Asylums, 381
  Ages and Nationality, 382
  Cost of Patients, 385
  Criminals, 385
  Treatment of, 654
Insanity, 378
  Causation of, 383, 384
  in England and Australasia, 380
Inscribed Stock Act of 1883, 543
Insolvencies, 564
Insolvency Court, 485
Instruction Compulsory, 578
  Science and Religion, 577
Intemperance as a Cause of Insanity, 383
Internal Communication, 416
Intercolonial Trade, 168
Interest on Loans—Nominal Rate, 540
Intoxicants—Consumption of in Australasian Colonies, 465
Iron, 87
  Trade Prospects, 400
  Works, 88
Ironbark—Tensile Strengh of, 109
Irrigation—Practicability of, 216
Islands, 50

Jackson, Port, 8, 48
Jenolan Caves, 62
Jervis Bay, 48
Johnston, Major, 13
  Governor, Arrested by, 17
Judges of Supreme Court, 481
Jury, the First, 19
  Trial by, Introduced, 19

Kangaroos, Number of, 119
Kerosene Shale, 98
Kiama Harbour, 48
King George's Sound, Settlement Formed, 21
King, P. G., Governor, 12, 14

Laboratory of University, 601
Lachlan River, 52
Lakes, 40, 49
  of Western District, 55
Lambing, 272
Land and Agriculture, 198
  and Buildings in Municipalities, 547
  Cultivated or Enclosed, 213
  Free Grants Abolished, 22
  Outside Municipalities, 548
  Revenue, 206
  Sales Revenue, 513
  Sold or Granted, 208
  Suited for Pastoral Pursuits, 261
  Under Pastoral Occupation, 207
Lang, Rev. Dr., 21
La Pérouse—Monument, 9
Law and Crime, 457
Legislative Assembly, 501
  Assembly Formed, 31
  Council, 500
  Council, Number of Members, 499
Length of Navigable Rivers, 54
Le Receveur Pére, 9
Letters and Newspapers Carried by Post, 454
  of Administration and Probates, 483
  Patent, 414
  of Registration of Patents, 415
Lewis Ponds Gold and Silver-mining Company, 81
Liabilities of Banks, 559
Library—Free Public, 606
Licenses—Revenue, 511
Liens on Growing Crops, 566

Liens on Wool, 565
Lieutenant-Governor, 489
Life—Average Duration, 376
  Expectation of, 375, 378
Limestone Beds, 62
Limitation of Auction Sales of Crown Lands, 516
Linnean Society of New South Wales, 604
Liverpool Plains Surveyed, 22
Live Stock Exported, 161
  in Australasia, 294
Loans, 534
  City of Sydney, 635
  Expenditure and Public Debt, 537
  Floated since 1858, 540
  Municipal, 635
  Provision for Extinction, 539
  Purposes for which Raised, 535
Local Government, 622
  Extension of, 641
  Revenues, 633
Localities where Principal Crops are Grown, 215
Lord Howe Island, 50
Lottery Bill Passed, 24
Lucerne Cultivation, 247

Macarthur, John—Arrest of, 15, 16
Macdonald River, 44
Machinery employed in Mining, 76
Macintyre River, 53
Macleay, George—Explorations, 20
Macleay River—Area drained by, 41
Macquarie, Lake, 47
  Lieut.-General, Governor, 17
  Port, 46
  River, 54
Magistrates' Courts — Convictions and Committals, 469
  Persons dealt with, 457
  Summary Convictions, 458, 468
Mail Communications with Europe and America, 452
  Contracts—Subsidies, 452
Main Roads, 417
Maize, 234
  Average Yield of, 235
  Cultivated, 1862-1888, 237
  Principal Centres of Cultivation, 234
Male Population of Australian Colonies at Self-supporting Ages, 330
Males Employed in Productive Works, 387
  Employed in Trade and Commerce, 387
  over 16—Number of in New South Wales, 387
Mammalia, 119
Manganese, 89
Manning River, 42
Manufactories and Works, 389
  Classification of, 394
  in Various Australasian Colonies, 396
Manufactures—Progress of, 394
Manufacturing Industry—Amount Invested, 414
Maoris, 328
Marble, 101
Market Gardens, 258
Marriage Prospects of Women in the Australasian Colonies, 336
  Rate of Australasian Colonies, 335
Marriages, 333
  by Each Denomination, 339
  Dissolved, 341
  in European Countries, 333
  Persons signing Register with Marks, 337, 580
  Registered in the Colony, 340
Marsupials, 296
Martial Law, 496
Matrimonial Causes Act, 341
Meat—Consumption of, 285
  Supply, 284, 299
  Surplus in New South Wales, 286
Melbourne—Population of, 319
Mercury, 89, 90
Mesozoic Formation, 63
Messageries Maritimes Co., 131, 184
Metallic Minerals, 69
Metamorphic Formation, 65
Meteorology, 59, 60
Metropolis—Area of, 322
Metropolitan Tramways—Operations of, 449
Millet, 246
Military Forces—Summary of, 619
Mills for Grinding and Dressing Grain, 407, 408
Mineral Licenses, 75
  Products—Estimated value obtained, 1878-87, 103
Minerals—Metallic, 69
  Quantity and value obtained, 102
Mines and Minerals, 66
Mining Leases—Revenue, 521
  Licenses, 75
  Occupation—Revenue, 513
Ministers, Cabinet, 497
Mint, Transactions of, 554, 555
Miscellaneous Land Receipts, 514
  Receipts, 527
  Services—Revenue, 526
Mitchell, Sir Thomas—Explorations, 22
Money on Deposit in Banks, 562

Monopoly of Australian Agricultural Company, 90
Moreton Bay Discovered, 4
  Surveyed, 19
Mortality in the Colony, 357
  Infant, 358, 364
  Rate of, 372
Mortgages on Land, 566
  on Live Stock, 565
Moruya River, 45
Mountain Lakes, 40
Mountains and Table-lands, 36
Municipal Elections, 640
  Expenditure—City, 631
  Expenditure—Country, 634
  Expenditure—Suburbs of Sydney, 634
  Loans, 635
  Revenue—City, 631
  Revenue—Country, 632
  Revenue—Suburbs of Sydney, 632
  Roads and Streets, 421
  Works, 637
  Works—Estimated Value, 546
Municipalities Act, 622
  and Boroughs—Capital Value and Income, 1887, 626
  and Boroughs—Population, 1887, 633
  Annual and Capital Value of Property, 624
  Assets, 636
Murray and Darling River Trade, 141
  River Discovered, 19
  River Length of, 51, 54
Murrumbidgee River, 51
  Discovered, 19
  Length of, 52, 54
Museum, 605
  Technological, 610
Mutiny of the Bounty, 14
Myall Lake, 49
Myall River, 42

Nambuccra River, 41
Namoi River, 54
National Art Gallery, 610
Nationalities of Foreign Vessels Trading, 133
Native-born Population Increasing, 315
Naturalization, 324
Naval Brigade, 617
Naval Station, 619
Naval Volunteer Artillery, 618
Nepean River, 44
  Scheme of Water Supply, 637
Newcastle Coal Seams, 63
  Founded, 12
  Harbour and Shipping Appliances, 47
Newcastle second among New South Wales Ports, 141
New Hebrides Discovered, 1
New South Wales, Area of, 35
  Corps—Constitution of, 12
  Founded, 9
  Limits of, 34
New Zealand Discovered by Tasman, 2
Non-residential Conditional Purchases, 201
Norfolk Island, 10-50
Noxious Animals, 296
Nymagee Copper Mines, 85

Oak—Tensile Strength of English, 109
Oaten Hay in Demand, 243
Oath of Allegiance, 503
Oats, 238
  Area under Cultivation and Yield, 239
  as a Fattening Food, 243
  Average Yield in Australasian Colonies, 241
  Average Yield in Principal Foreign Countries, 242
  Average Yield per acre in New South Wales, 240
  Cultivation neglected, 242
  for Hay and Green Food, 244
Observatory, Sydney, 605
Occupation of Crown Lands—Revenue, 515
  Licenses, 204
Offences—Classification of, 475
  of Prisoners under Sentence, 475
Offenders Convicted more than once, 477
  Habitual, 478
Omnibus Traffic, 450
Orange Cultivation, 257
Orangeries—Area and Production, 258
Orchards, 258
Overland Trade, 164
  with Queensland, 174
  with South Australia, 175
  with Victoria, 172
Oysters, 126

Palæozoic Formation of New South Wales, 61
Pammaroo, Lake, 55
Parliamentary Constitution, 498
Parliament—Duration of, 505
  Elections of, 506
  Meeting of First, 504
  Summoning, 493
Paroo, River, 54
Passage across the Blue Mountain-

- Pastoral Leases, 203
  - Occupation Revenue, 513, 519
  - Occupation—Rent Paid, 1887, 207
  - Property Value, 293
- Passenger Traffic on Railways, 434
  - Receipts, 437
- Patents, 414
- Paterson, Colonel—Governor, 17
- Paterson River, 43
- Payments on Account State Aid to Religion, 611
- Permanent Artillery, 616
- Personal Property and Furniture—Estimated Value, 548
- Phillip, Captain—first Governor, 7
  - Return to England, 11
- Phthisis, 371
- Phylloxera, 257
- Physical Configuration, 36
- Pigs—Annual Cast, 293
  - Number of, 293
- Pine—Colonial, 108
- Pinewoods, 110
- Pittwater, 47
- Police—Number of, 459
  - in Australasia, 459
- Poll-tax—Evasion by Chinese, 313
- Population—Aborigines, 327
  - Ages of, 331
  - and Vital Statistics, 306
  - Birthplaces of, 315
  - Centralization of, 314
  - Chinese, 312
  - Increase of, 308
  - Net Annual Increase, 347
  - of Australasia, 307
  - of Chief Cities in Australasia, 319
  - of Chief Towns of New South Wales at Census of 1881, 324
  - of Metropolitan Municipalities, 323
  - of Municipalities and Boroughs, 1887, 633
  - of New South Wales at different Census, 332
  - of Sydney within Municipal Boundaries, 320
  - of the Colony, City, and Country Districts, 321
  - Racial Composition, 316
  - Urban and Rural, 317
- Port Phillip—Separation of, 25
- Port Jackson, 48
- Postal Business Carried at a Loss, 453
  - Increasing, 455
- Postal Money Orders, 568
- Post and Telegraphs, 451
- Post and Telegraph Service, 526
  - Revenue, 525
- Post Office Banks, 563
  - Employés, 453
  - Operations, 453
- Potatoes, 247
  - Area Cultivated and Yield, 248
  - Consumption, 300
- Power of Plant in Manufactories, 390
- Prerogative of Mercy, 490, 494
- Press—Censorship Abolished, 19
- Primary Education, 577
- Prisons, 473
- Prisoners, Ages of, 476
  - Decrease in Number of, 473
  - for Debt, 480
  - in Confinement at end of 1887, 474
  - previously Convicted, 478
  - re-convicted, Classification, 479
  - Refractory, 480
  - Under Sentence—Offences of, 475
- Private Indebtedness, 567
  - Lines of Railways, 424
  - Schools, 590
  - Wealth, 547
- Privy Council—Appeal Permitted, 482
- Probate Administration, 483
- Produce Exported, 154
- Productive Pursuits—Income from, 552
- Professional Men, 388
- Progress of Education, 579, 581
- Propertied Classes, 643
- Property Left by Persons who Died, 550
- Proprietary Resources of New South Wales Banks of Issue, 561
- Prospect Reservoir, 638
- Provisions for Extinction of Loans, 539
- Public Debt—Burthen of, 574
  - Increase of, 538
  - of Australasian Colonies, 575
  - Present Amount, 536
- Public Expenditure, 529
  - Estate—Estimated Value, 546
  - Instruction, 583
  - Resources, Estimated Value, 536
  - Revenue, 508
  - Revenue of New South Wales, 1860-1887, 508
  - Schools Act, 577
  - School Boards, 586
  - Wealth, 507, 545
  - Works—Estimated Value, 545
- Punishments Inflicted by Magistrates, 467
- Punts and Ferries, 419
- Purchases on Gold-fields, 205

- Qualification of Electors, 501
- Quartz-mining, 72
  - Mining Revival in 1887, 75

Quartz-mining Veins—Principal Localities of, 74
Quiros, Don Pedro Fernandez, &c., 1

Ratable Property in Boroughs and Municipalities, 624
  Property in Each Municipality, 626
  Property in British Cities, 625
Rate of Dividend Paid by Banks, 557
  of Wages of Various Trades, 409-412
Rabbits, 296
Railways, 422
  Average Cost per Mile, 432
  Analysis of Goods Traffic, 439
  Average Distance Travelled per Passenger, 435
  Average Earnings from Goods per Ton, 441
  Average Fare per Mile, 436
  Average Fare per Passenger, 437
  Capital Expended on, 424
  Cost of Construction, 433
  Cost of Construction in Other Countries, 434
  Earnings and Expenditure, 523
  Earnings per Mile, 436
  Expenditure of Australasian Colonies, 573
  Extension to Circular Quay, 428
  Gross Earnings and Working Expenses, 443
  Growth of Traffic, 429
  Haulage per Ton of Goods, 440
  Illawarra Line, 429
  in Other Countries Compared with New South Wales, 445, 446
  Journeys per Head of Population, 435
  Length Open for Traffic, 423
  Length of Lines open in Australasian Colonies, 425
  Light Lines, 432
  Lines Authorized, 447
  Lines Open for Traffic, 447
  Lines Under Construction, 447
  Loss on New Lines, 431
  Passenger Traffic, 434
  Private Lines, 424, 447
  Private Line from Broken Hill, Silverton, to South Australian Border, 448
  Private Line from Deniliquin to Moama, 447
  Projected Branch Lines, 427
  Net Revenue and Interest on Capital, 444
  Receipt from Goods per Mile, 441
  Receipts from Goods Traffic, 442
  Receipts per Head of Population, 438
Railway Receipts from Passenger Traffic per Train Mile, 437
  Revenue, 522
  Rolling Stock, 447
  System of New South Wales, 425
  Tonnage of Goods Carried, 440
  Tonnage Moved in Various Countries, 439
  Tons of Goods Carried per Mile, 441
Rainfall, 59
  in Wheat Centres, 226
  Influence on Crops, 219
Raw Material—Preparation of, 400
Re-export—Large Trade of Certain Colonies, 153
  Overland Trade, 162
  Trade, 162, 164
Reformatories, 593, 652
Refractory Prisoners, 480
Refund of Deposits on Purchases of Crown Land, 519
Relation between Loans, Imports, and Exports, 543
Religion, 611
  Number of Adherents, 613
  State Aid, 611
Religious Equality established, 22
Religions of Persons apprehended, 462
Reptiles, 126
Reserved Profits of Banks, 557
Responsible Government, 505
  Established, 29
Revolt at Castlehill, 13
Revenue—Classification of, 509
  in Various Years, 507
  from Customs and Excise, 511
  from Public Lands, 513
  from Services, Railways, Post, Telegraphs, &c., 522
  from Taxation, 510
  of Australasian Colonies, 507
  of Country Municipalities, 632
  of Suburban Municipalities, 632
  of City of Sydney, 631
  per Head, 528
Rewards paid for Scalps of Noxious Animals, 297
Richmond River, 40
Riverine Country, 268
Rivers of Coastal Regions, 40
  of Western Watershed, 50
  Traffic on, 430
Roads and Bridges—Value of, 419
  and Streets—Municipal, 421
  Government Expenditure on, 418
  Great Western, 417
  Supervision and Maintenance, 418
Rolling Stock of Railways, 447

Roman Catholic Schools, 591
Royal Geographical Society of Australia, 604
Royal Society of New South Wales, 604
Royalty on Timber—Revenue from, 115
Rubies, 100
Rum Currency, 15
Rum—Importation of, 12
    Sale of, Prohibited, 13
Rye, 246

Salubrity of Climate, 359
Sandstone Formation, 101
Savings Banks, 563
    for Schools, 590
Saw Mills, 402
Schnapper Fisheries, 123
School—Fees, 589
    of Medicine, 600
    Savings Banks, 590
Schools—Church of England, 592
    Denominational, 601
    Establishment of, 17
    Number of State, 584
    Private, 590
    Roman Catholic, 591
    When Present Education Act came into Force, 583
Scientific Societies, 603
Scrub Forests, 109
    Leases, 205
Secondary Education, 579
Second Fleet—Arrival of, 10
Selling Price of Australian Stock, 542
Senate of University, 595
Services—Revenue from, 522
Settlement—In Early Days of Colonization, 416
Settlers—Arrival of Free, 19
Sewerage of Sydney and Suburbs, 639
Sex of Children Born, 344
Sexes—Distribution of, 329
Shale Deposits, 98
    Production and Value of, 99
Sheep, 261
    and Cattle Runs, 294
    Breeding of Coarse Woolled, 279
    Breeds of, 270
    Causes Modifying Increase, 265
    Export and Import of, 266
    Increase of, 265
    Number in Australasian Colonies, 267
Shipping—Early Records of, 128
    Foreign and British, 131
    Quantity and Tonnage of 1825–87, 129
    Trade at Riverina Ports, 142
    Trade of Australasian Colonies, 129-130
Shipping Trade of Sydney—Progress of, 139
Shoal Bay, 46
Shoalhaven River, 44
    Area Drained by, 45
Silurian Rocks, 62
Silver, 78
    and Silver Lead—Number of Miners engaged, 83
    Ore—Quantity and Value Exported, 82
    Boom in 1888, 80
    Coin Withdrawn, 555
    Deposits in the Barrier Ranges, 79-81
    Lodes in New England, 81
    Production of, Increasing, 82
Silverton, 78-80
Skilled Mechanics, 388
Slates, 101
Slaughtering for Food, 287
Small-pox, 371
Snakes and Reptiles, 126
Snowy Range, 37
    River, 45
Soap and Candle Manufactories, 402
Social Condition, 643
Soft-woods, 109
Soil and Agriculture, 213
    Suitable for Fruit Trees, 215
Sorghum, 247
Southern Watershed, 37
Sown Grasses, 247
Special Areas, 201
    Leases, 206
    Sales, 206
Specific Duties, 195
    Gravity and Tensile Strength of New South Wales and European Trees Compared, 113
Spirits—Consumption of, per Head, 465
    Revenue from Imported, 191
    Subject to Excise, 191
Stamp Duties, 512
Stamps—Revenue, 511
State-aided Educational Establishments, 592
State Aid to Denominational Schools, 578
    Aid to Religion, 611
    Children's Relief Board, 650
    Forests and Timber Reserves, 117
    Forests—Number and Area of, 115
    Schools, 583
Schools in Australasian Colonies, 585
Steam and Sailing Tonnage, 133
    Communications with England, 451
    Power in use in various countries, 413
Stephens, Port, 46

Stock, 260
  Annual Cast of, 285
  Breeding—Humble Beginning, 260
  Carrying Capacity of the Colony, 266
  Facilities for Watering, 295
  Improvements in Value of, 542
Streets and Roads in Municipalities, 421, 636
Students Attending Technical College, 602
  at the University, 599
Stud Sheep—Importation of, 269
Sturt, Captain Charles—Explorations of, 20
Submarine Telegraph Cables, 451
Subsidies for Mail Contracts, 452
Suburban Expenditure, 634
  Revenue, 632
Suburbs of Sydney, 322
Sugar-cane—Area in Production of, 251
  Cultivation of, 250
  Principal Centre of Production, 252
Sugar Consumption, 300
  Growing, 402
  Mills, 403
  Refineries, 404
  Revenue from Imported, 195
Suicides, 373
  in Australasian Colonies, 374
Summary Convictions by Magistrates, 458, 468
Summoning of Parliament, 493
Sunday Schools, 614
Sunny Corner—Silver Mines, 78, 81
Superior Public Schools, 592
Supreme Court, 481
Surplus Assets of Banks over Liabilities, 560
  Revenue, 533
Swan River Settlement formed, 21
Sydney—Chief Shipping Port, 141
  Climate of, 56
  College, 594
  Grammar School, 593
  Harbour—Area of Water Surface, 48
  Observatory, 605
  Population of, 319, 320
  Revenue and Expenditure, 631
  Summer and Winter Temperature, 56
  Winter Temperature, 57

Table-lands of New South Wales, 36
  Climate of, 57
  Suitable for Growth of European Cereals, 215
Tariff, 191
Tasman's Discoveries, 2
Taxation of Australasian Colonies, 572
  per Head, 510
  Revenue derived, 511
Tea Duties, 194
Teachers Public Schools, 585
  Training of, 586
Teaching Staff of University, 598
Technical Education, 601
Technological Museum, 610
Telegraph Business, 455
  Business of Australasia and United Kingdom Compared, 456
  Lines in Operation, 452
  Submarine Cables, 451
Temperature and Climate, 56
Tensile Strength of Colonial Timber Compared with Foreign, 109
Territorial Divisions under Crown Lands Act of 1884, 199
Timber, Australian and Foreign, compared, 113
  Cut in State Forests, 115
  Export of, 111
  Large Importation of, 110
  Licenses and Permits, 117
  Trees—Chief Varieties of, 105, 109
Tin—Discovery of, 83
  Market Controlled by European Syndicates, 84
  Total Production in New South Wales, 83
  Value of Export, 84
Tobacco, 248
  Area and Production, 249
  Duties, 192
  Duties, Revenue from, 193
  Leaf Imported, 405
  Manufactories, 405, 406
Tonnage Arriving in Ballast, 133, 134
  of British Vessels Trading to New South Wales, 132
  of Foreign Vessels Trading to New South Wales, 132
  of Goods Carried on Railways per Head of Population, 439
  of Principal Ports of Great Britain, 141
  of Principal Australasian Ports, 139
  of Steamers and Sailing Vessels Trading to New South Wales, 1876-87, 133
  of Vessels and Value of Cargoes, 136
  of Vessels Trading with New South Wales—Average of, 137
  of Vessels Trading with Sydney and Newcastle, 140
  Registered in New South Wales, 143
Torres, Luiz Vaez de, 1

Trade follows the British Flag, 180
  of Australasian Colonies, 165-166
  of Sydney compared with British Ports, 140
  with Belgium, 183
  with China, 186
  with Fiji, 178
  with France, 184
  with Germany, 186
  with Great Britain, 167
  with Great Britain and British Possessions, 180
  with Hongkong, 178
  with India, 179
  with New Caledonia, 185
  with New Zealand, 177
  with Queensland, 172
  with South Australia, 174
  with Tasmania, 176
  with United States, 181
  with Victoria, 169-172
  with Various Countries Compared, 135, 187-189
Trades—Rates of Wages, 409
Tramways—Earnings and Expenditure, 525
  Interest on Capital, 449
Tramway System, 448
Transactions of the Lands Department, 1887, 207
Transit of Mails, 426
Transportation—Abolition of, 23-27
Training of Teachers, 586
  ship Vernon, 594
Treatment of Insane, 654
Trial Bay, 46
Tuggerah Lake, 49
Tumut River, 52
Tuross River, 45
Tweed River, 40
Twins and Triplets, 352
Twofold Bay, 49

Ulladulla Harbour, 48
University, 594
  Affiliated Colleges, 597
  Benefactions, 597
  Degrees Conferred by, 599
  Examinations, 599
  Expenditure, 600
  Revenue, 600
  School of Medicine, 600
  Senate, 595
  Students, 599
  Teaching Staff, 598
Unpaid Balances on Conditional Purchases, 208
Unskilled Labourers, 388
Urana Lake, 55

Vaccination, 378
Valuation of Public and Private Wealth, 545
Vegetation, 104
Vessels Built in New South Wales, 144
  Registered at Sydney and Newcastle, 142
  Registered in New South Wales, 143
  Wrecked off New South Wales, 147
Vernon Training Ship, 594
Victoria Discovered, 23
  Lake, 55
Vine Cultivation, 254
Violence, Deaths from, 368, 370
Visitors, Free Public Library, 607
Vital Statistics, 306
Volunteer Forces, 616
  Movement, 615
  Reserves, 618

Wages—Comparatively High Rate of, 412
  of various Trades, 409
Wakool River—Length of, 51, 54
Wallabies—Number of, 119
Wallis Lake, 49
Waljeers Lake, 55
Water Fund—City of Sydney, 637
  Subterranean, 64
  Supply—Country, 639
  Supply of Sydney, 637
Warragamba River, 44
Warrego River, 53
War Vessels on Station, 620
Wealth of New South Wales—Estimated Total, 548
  of Victoria and New South Wales compared, 551
  Private, 547
  Public, 545
Weight of Gold Minted, 553
Wellington Caves, 62
Western Districts—Climate of, 58
  Division, 203
  Mountain System, 39
  Watershed, 37, 50
Wharves, 146
Wheat, 218
  and Flour Imported from South Australia and Victoria, 176
  Area under Cultivation, 222
  Average Yield per Acre in Australasian Colonies, 227

Wheat—Average Yield per acre in New South Wales, 218, 224
  Grown for Hay, 233
  Production not equal to demand, 228
  Proportion of land cultivated to area of Districts, 221
  Yield per acre, 1862-1888, 220
Wiambene Caves, 62
Wianamatta Series, 63
Williams River, 43
Wine Duties, 192
  Increase of Industry, 256
  Production, 1862, 1888, 256
Wines of New South Wales at Bordeaux Exhibition, 255
Wollondilly River, 43
Wollongong Harbour, 48
Wool, 156, 272
Wool—Consumption of, 279
  Exported, 1878-1887, 157
  Fluctuation in Value, 276
  Growing initiated, 14
  Liens on, 565
  Markets Available for Shipment of, 280
  Produce of Various Countries, 281
Wool—Quantity and Value of in Australasian Colonies, 279
  Shipments of Home Grown Wool Increasing, 273
  Shipped from New South Wales, 274
  Shipped *via* Adelaide and Melbourne, 274
  Superiority of Australasian, 269
  System of Preparing, 273
  the Staple Export, 156.
  Trade Affected by Seasons, 157
  Value of Clip of each Colony, 275, 279
  Weight Exported, 1860-1887, 275
  Weight per Sheep, 273
Woollen Mills, 398
Working Expenses of Railways, 443
Works and Hands Employed, 395
  in Operation—List of, 390
Woronora River, 44
Wyong State Nursery, 117

Yield of Quartz and Alluvial Gold Mines, 77

Zymotic Diseases—Deaths from, 366, 369

Sydney: Charles Potter, Government Printer.—1888.